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Choice



REVIEWS

Tangent Spectrum 5.1
Sony Dolby Atmos soundbar
Samsung 4K Blu-ray player
TCL 55in TV
1More MK802

SONY: KING OF OLED!

55in A1 Bravia TV mixes stunning design and hidden audio with awesome performance



4K curve
Samsung MU9000 TV does HDR in style

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ROAR POWER!

Why *Kong: Skull Island* is a home cinema classic on Blu, p96

PLUS
Dolby Vision: Blu-ray has never looked this good!

FILM & TV

- LOGAN NOIR
- JOHN WICK 2
- THE MUMMY TRILOGY 4K
- GET OUT



Wall of sound

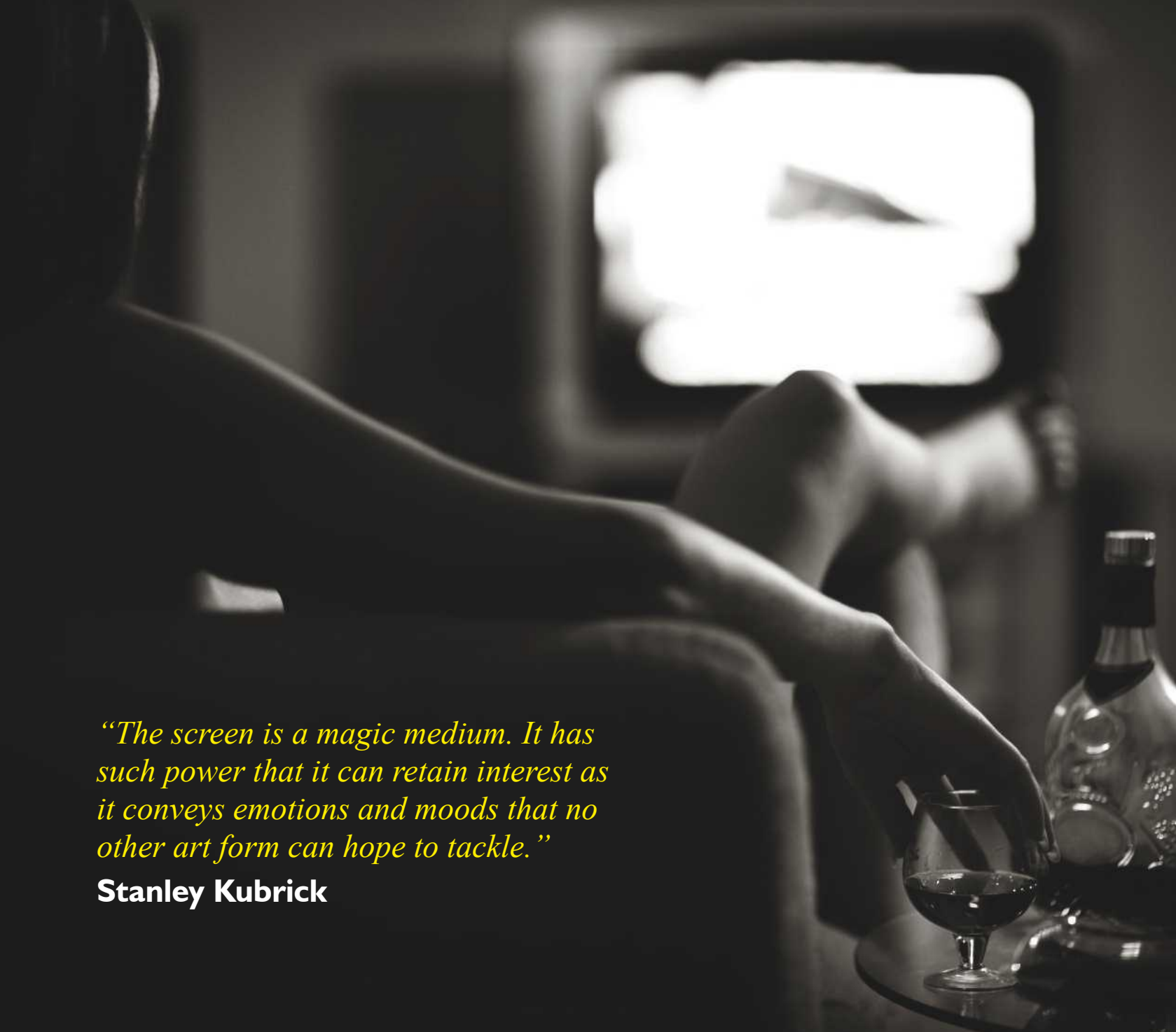
ATC's slim-line HTS speakers

INSIDE BUYER'S GUIDE → READER'S ROOM → OPTOMA UHD PROJECTORS → COLLECTING... PAUL VERHOEVEN → OPINION → BLU-RAY ENCODING → MORE!

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"The screen is a magic medium. It has such power that it can retain interest as it conveys emotions and moods that no other art form can hope to tackle."

Stanley Kubrick

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NEXT ISSUE ON SALE: August 10, 2017



We speak with Sony CEO Kaz Hirai, p24

Welcome

One of the most innovative TVs I ever clapped eyes on was Toshiba's ZL2. Launched in 2012, it hoped to woo consumers with its autostereoscopic (glasses-free) 3D technology. As a sideline, the TV featured a



4K panel, necessary to create that curious 3D effect. In that regard, it heralded the dawn of a new era which has seen 4K, Ultra HD Blu-ray and HDR become must-have elements for home cinema enthusiasts.

The ZL2 was almost a last great hurrah for Toshiba – the Japanese brand began to wind down its UK presence shortly after. But now it's back with an OLED TV (see p8). Add in a resurgent Loewe and Philips, plus new-to-the-UK Chinese brands including TCL and Hisense, and the TV market seems to be expanding nicely. Should traditional big-hitters like Sony be worried? Judging by the brilliance of its Bravia A1 (p38), maybe not...

Mark Craven
Editor



MENU



CONTRIBUTORS



John Archer:
The UK's most experienced TV tester cut his teeth as an early HCC staffer



Jon Thompson:
Film producer and post-production expert delves deep into Hollywood and AV



Steve May:
HCC's former Editor-in-Chief is one of the UK's most respected AV journo's



Martin Pipe:
Technical expert Martin is renowned throughout the home cinema industry



Richard Stevenson:
Industry veteran and former Editor of UK CE trade journal ERT



Danny Phillips:
A former editor of *What Video* magazine, now a certified home cinema audio buff

FEATURES

In-depth interviews and special reports. Starts... p24

24 Sony's man with the plan

Talking tech with Sony CEO Kaz Hirai

26 One last ride for the Wolverine

The inside story of superhero smash *Logan*

COVER STORY

30 Dolby Vision touches down

We check out the first DV 4K Blu-rays

32 Lights, Xbox, action

Media room sports a clever console setup

74 'Discs still have a long way to go'

Blu-ray encoder David Mackenzie tells all

SELECT

The place to look if you're planning to buy some new AV gear. Starts... p111

111 Gear guide

HCC's comprehensive Top 10s list only the very best kit money can buy

BULLETIN

The place for hot products, trends and technology. Starts... p7

07 Optoma crashes 4K PJ party

Two new UHD projectors unveiled

08 Hello OLED! Gotta Toshiba?

First look at flagship 65in X97 TV

09 Playing with 3D audio

Console thriller's innovative Auro-3D mix

10 The ace(s) of BASE

Star Wars and HMV dominate awards

12 Toshiba TVs return to UK

Iconic brand launches a fleet of flatscreens

14 Spirited 4K sci-fi

Ghost in the Shell comes to UHD Blu-ray

17 Flower power?

Triad wants to turn your garden into a cinema

20 Denon & Marantz unite on HEOS

AV heavyweights focus on multiroom audio with new home cinema separates

REGULARS

Whether you want our opinions or your own, here's where to look. Starts... p81

81 Digital copy

Why is the UK kept waiting for 4K discs?

82 Film fanatic

Film censorship rears its ugly head again

84 In the mix

Bringing the 'wow' factor back to cinemas

86 Feedback

Share your thoughts with other AV addicts

90 Certified: AV-Holic

Another HCC reader shares their setup

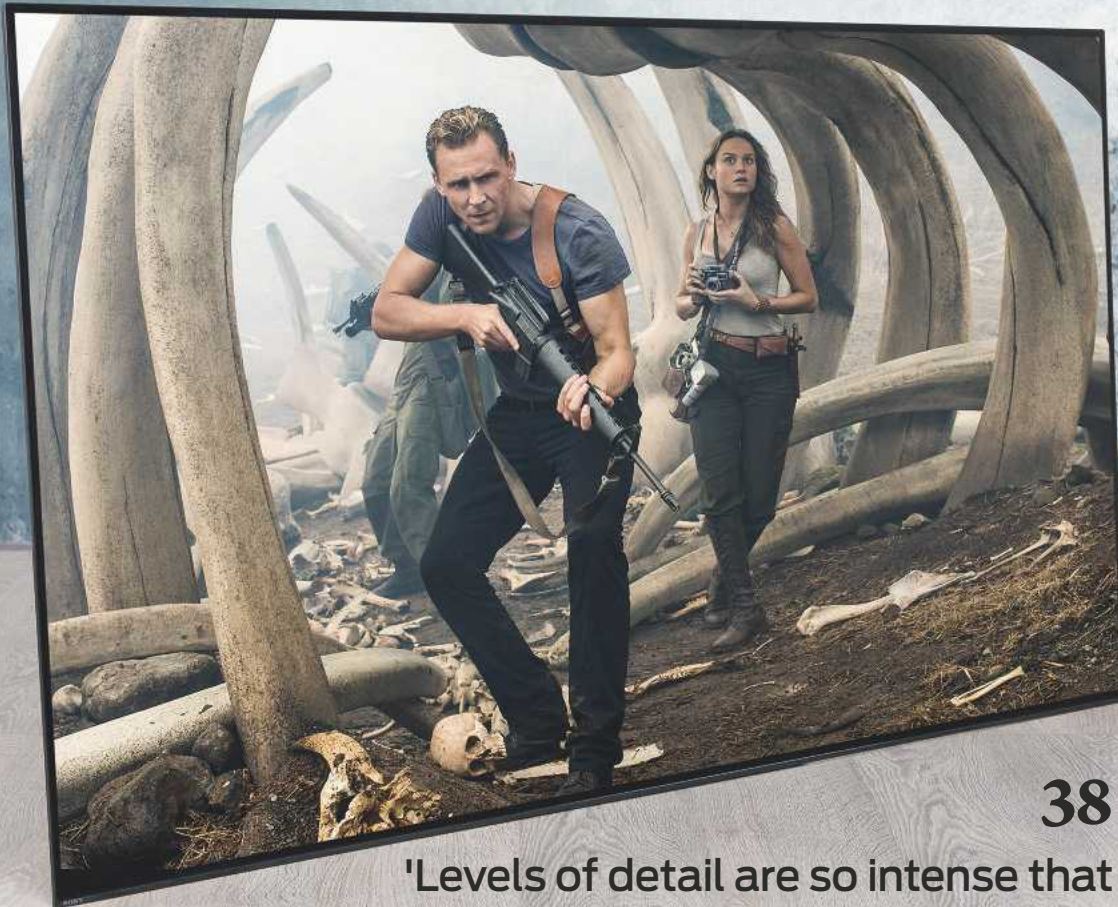
122 AV Avenger

Being a telly addict has never been so costly

COMPETITIONS

88 Great Blu-rays to be won!

American Gods: Season One, *Get Out* and *Kong: Skull Island*



38
'Levels of detail are so intense that they almost feel uncomfortably intimate'



42



44



53



66

REVIEWS

With a focus on performance, these are in-depth tests you can trust... p37

COVER STORY

38 Sony KD-55A1

Striking 55in Bravia OLED TV mixes awesome 4K HDR visuals and innovative audio tech

42 Samsung UBD-M9500

Second-generation Ultra HD Blu-ray player with multimedia smarts

COVER STORY

44 ATC HTS7/HTS7C/C1 system

Stunning wall-mounted 5.1 loudspeaker array should win ATC plenty of fans

COVER STORY

48 Samsung UE55MU9000

Continuing the brand's curved crusade, this 55in 4K LED TV does HDR in style

COVER STORY

53 Grouptest: Soundbar selector

The LG SJ8, Monitor Audio ASB-10, Philips Fidelio B1 and Samsung HW-MS6500 do battle in our soundbar grouptest. Which of these mid-range marvels provides the biggest sonic bang for your bucks?

62 Sony HT-ST5000

Dolby Atmos-enabled soundbar gets serious with hi-res audio

64 TCL U55C7006

Affordable 55in 4K HDR set from Chinese manufacturing giant

66 Sony VPL-VZ1000ES

Premium ultra-short-throw projector aims to make any space a 4K HDR screening room

68 Tangent Spectrum 5.1

Well-priced floorstanding array that's also very easy on the eye

70 1More MK802

Bluetooth headphones deliver excellent performance... in quirky colours

70 Avegant Glyph

Bigscreen entertainment goes mobile with this head-mounted home cinema

PLAYBACK



The latest Blu-rays, DVDs and videogames reviewed and rated. Starts... p93

94 Beauty and the Beast

95 Get Out; The Boss Baby; The Lost City of Z; Elle

96 Kong: Skull Island

98 Injustice 2; One-Eyed Jacks; The Amityville Horror: Limited Edition Steelbook; The Naked Civil Servant

99 The Sinbad Trilogy

100 Life; The Dirty Dozen: Premium Collection; Battle of the Bulge: Premium Collection; Casualties of War: Premium Collection; Donnie Brasco: Premium Collection

102 The 4 Marx Brothers at Paramount

103 The Bird with the Crystal Plumage: Limited Edition; All the Colours of the Dark; The Perfume of the Lady in Black; The Autopsy of Jane Doe; Prevenge

104 Logan [4K]

105 John Wick: Chapter 2 [4K]; Hacksaw Ridge [4K]; The Great Wall [4K]; Terminator Genisys [4K]

106 The Mummy Trilogy [4K]; Unforgiven [4K]; La La Land [4K]; Patriots Day [4K]

108 **COLLECTING...** Paul Verhoeven
We round up 10 of the controversial filmmaker's best on Blu-ray and DVD



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Connect to any audio device

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email jake.stevenson@music.yamaha.com for details

BULLETIN

→ **News Highlights** TOSHIBA TV brand fights back with 4K LCD and OLED range
 XBOX Microsoft revamps console for 4K HDR generation **TRIAD** Outdoor sub/sat system beds in
 BASE UK retailers scoop awards **NEWS X10** The hottest news stories in bite-sized chunks
GHOST IN THE SHELL Will this UHD disc give you Scarlett fever? & **MORE!**

Optoma crashes 4K PJ party

Optoma UHD60/UHD65 → www.optoma.co.uk

Ultra HD projector shoppers will have a wider choice this Summer courtesy of two new models – with tempting price tags – from Optoma. The UHD60 (pictured) and UHD65 will sell for £2,500 and £3,000 respectively (the latter from August); both feature DLP 4K single-chip designs and HDR 10 compatibility via HDMI input. The step-up UHD65 adds PureMotion processing and an improved contrast to a shared feature list that includes 1.6x optical zoom and vertical lens shifting.



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Hello OLED! Gotta Toshiba?

Toshiba 65X97 → www.toshiba-tv.com

Toshiba is making a return to the UK TV market this September, in conjunction with manufacturing giant Vestel, and top of its product line is the 65in X97 OLED. The set boasts a claimed colour performance that reaches 99 per cent of DCI-P3, bespoke motion processing, integrated Netflix smarts and a native 4K pixel count – but doesn't offer any HDR playback support. Additional LED-lit LCD models in the new Toshiba range will cover various sizes and resolutions. See p12 for more.



Soundbar debuts new DTS tech



Yamaha has taken the wraps off the replacement for its YAS-203 soundbar. More than a mere cosmetic makeover (although it does boast a slimmer enclosure), the

YAS-207 adds HDMI inputs and 4K HDR compatibility – both of which were missing from the earlier model. It's also the world's first soundbar to include DTS Virtual:X post-processing tech, which aims to replicate the effect of a 7.1.4-channel setup. The YAS-207 hits the US in July, priced \$300, with a UK release (price TBC) expected soon after. uk.yamaha.com



THX Integrated cinema system

Onkyo has launched a new THX Integrated System-certified home cinema audio package. The £1,300 HT-S9800THX consists of the brand's HT-R997 AV receiver and a 7.1-channel speaker array. In addition to supporting Dolby Atmos and DTS:X, with the option to use two of the four supplied surround speakers in a front-top configuration, this big bundle of AV goodness also offers 4K HDR passthrough (including Dolby Vision) and integrated Chromecast audio streaming. www.uk.onkyo.com

Playing with 3D audio

Console thriller *Get Even* offers immersive Auro-3D on any headphones

Eerie thriller *Get Even* is the first videogame to utilise an Auro-3D soundmix and real-time generated interactive music. Created by indie developer The Farm 51 and published by Bandai Namco, the game delivers audio in a way gamers haven't experienced before. Composer Olivier Derivière says '*Get Even* is not about the gameplay, it's about the experience.'

HCC visited Pinewood Studios for the game's launch and can confirm this isn't your usual shooter soundmix; it's a rather more ominous creation. Derivière uses all manner of organic noises to build his beat. 'What I actually did was take the room tone, the noise from light bulbs, speakers and the like, and pitch correct them all to C. This enabled me to create a droning atmosphere which builds tension.'

The accompanying score, which features both electronic music and the Brussels Philharmonic orchestra, was recorded using ambisonic techniques. It was mixed in Auro-3D at Galaxy Studios.

The company is best known for Auro-3D, the immersive audio format touted as an alternative to Dolby Atmos and DTS:X. However, the *Get Even* mix doesn't require any proprietary decoding technology. Players merely need to don stereo headphones to enjoy the spatial characteristics of the recording.



Olivier Derivière: 'You'll feel like you are within the room with the musicians. It's like being in the centre of the story'

The approach is very different to that being adopted for Dolby Atmos games, which require dedicated decoding hardware.

'This isn't Atmos,' Derivière told HCC. 'What we are talking about here are ambisonics, and the way you can reproduce them. 3D is part of the gaming world. The issue is that the sonic perspective of game sounds isn't natural; if you listen on 'phones it feels like everything is too defined, whereas in the real world there is less definition. This is what Auro-3D Headphone brings.' This immersive effect doesn't work with loudspeakers or TV audio systems. The good news is the game's audio options include a separate high dynamic range home cinema mix, in addition to Auro-3D Headphone.

Starting at the end

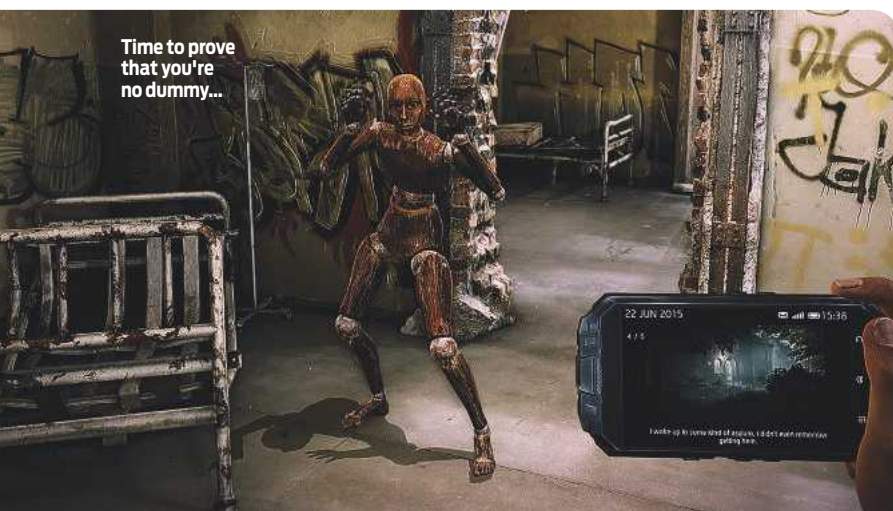
Get Even was written by Stephen Long and Iain Sharkey, longtime collaborators of illusionist Derren Brown. 'We were brought in for a 15-day script polish,' says Long, 'but we ended up rejigging the

whole story. It's a mystery, so we started with the end and worked backwards.'

'It takes place in a VR world, but it's not a VR game,' adds Derivière. 'But how can we have music that makes sense in this VR world? Every little sound is a clue. When you complete the game, you'll want to redo it.'

Get Even is available now on PlayStation 4, Xbox One and Windows PC.

Time to prove that you're no dummy...



Playlist...

Team HCC spins up its disc picks of the month

Resident Evil: The Final Chapter (Ultra HD BD)

The popular action-horror series bows out with a 4K platter that marries hyper-kinetic visuals with pounding Dolby Atmos sonics.



Klown (Region B BD)



Fans of *Curb Your Enthusiasm* will find a lot to like about this 2010 Danish comedy, which has now been given a welcome HD upgrade.

iZombie: Season Two (R2 DVD)



The second season of this quirky and clever TV series continues to breathe fresh (and funny) life into both zombies and cop shows.

Moonlight (Region B BD)



This tender Best Picture Oscar winner lets its striking visuals do the talking on this HD platter.

Denial (R2 DVD)



Denied a Blu-ray release in the UK, this powerful courtroom drama is still worth tracking down on DVD.

At the 'plex...

Heading out to see a flick?
Catch these this month

The Beguiled

July 14: Director Sofia Coppola nabbed the Best Director gong at this year's Cannes Film Festival for this slice of Southern Gothic starring Colin Farrell and Nicole Kidman. But the big question is how will it stack up against the 1971 version with Clint Eastwood?

Dunkirk

July 21: Shot on large format 65mm film stocks, Christopher Nolan's epic WWII movie about the Dunkirk evacuation is one of those films that you have to see on the biggest screen possible.

Valerian and the City of a Thousand Planets

August 02: Based on a series of French comic books, Luc Besson's new 3D sci-fi blockbuster looks set to recapture the magic of his 1997 hit *The Fifth Element* with its mix of eye-popping visuals and high-octane action scenes.

The ace(s) of BASE

Star Wars and HMV dominate home entertainment industry awards

HMV, Sky and *Star Wars* were big winners at the recent 2017 BASE Awards, the showcase event for the British Association for Screen Entertainment that celebrates 'innovation and achievement' in the digital and physical video sector.

HMV, the UK's best-known bricks and mortar retailer, scooped Retail Store of the Year for the fifth year in a row, plus the Physical Retailer of the Year Initiative, for its HMV Hollywood Classics range. The latter sees titles including *Cleopatra*, *Strangers on a Train* and *A Bridge Too Far* available on DVD in collectible packaging, with price offerings including a tantalising '5 for £20' deal.

The retailer has also wooed hi-def enthusiasts this year with its Premium Collection Blu-ray lineup, which includes UK 1080p debuts for a growing number of back-catalogue releases from the Warner Bros. and Sony Pictures vaults (see p100 for reviews of four recent additions to the range).

Sky also grabbed two awards, both in relation to its Sky Store digital download platform. Digital Retailer Initiative of the Year was presented for the company's Christmas Voucher scheme that allowed Sky TV customers to claim either three-month access to boxsets or a voucher to be redeemed in the Sky Store. It also picked up Digital Retailer of the Year.

When it comes to software, Walt Disney Home Entertainment unsurprisingly grabbed the coveted



The winners celebrate, while host Claudia Winkleman hires some new bodyguards

Title of the Year for *Star Wars: The Force Awakens*. Explains BASE: 'The distributor made the movie's home entertainment arrival on 18th April [2016] feel like a

landmark event, and it resulted in more than one million DVDs and Blu-rays being sold in the film's first week on sale.'

By the end of 2016 ... *The Force Awakens* had sold a staggering 2.05m copies on physical disc, amounting to £24.8m passing through tills.

Universal Pictures UK was crowned Distributor

of the Year, reflecting its 18.5 per cent share of the UK's home video market in 2016, boosted by titles on release including *The Secret Life of Pets*, *Jason Bourne*, *The Huntsman: Winter's War* and *Star Trek Beyond* (via its long-running deal with Paramount Pictures). Arrow Video's promotional campaign for its *Donnie Darko* back-catalogue release grabbed a Campaign of the Year gong.

Digital overtakes physical

BASE, formerly known as the BVA (British Video Association), is the trade body representing publishers/rights-owners of the UK's £2.25billion video entertainment industry.

Earlier this year it announced that 2016 was the first time that digital ownership (via download and streaming) had overtaken physical media purchasing in the UK, with the latter now accounting for around 51 per cent of the video pie.



X marks the spot for Microsoft

New addition to console family delivers 4K HDR gaming and UHD Blu-ray playback

Every Summer, the videogame industry decamps to Los Angeles for the Electronic Entertainment Expo (E3) to show off upcoming games and kit. As expected, this year's event saw Microsoft confirming the latest addition to its lineup of games consoles: the Xbox One X.

Making its worldwide debut November 7 (priced £450 in the UK), the Xbox One X doesn't mark the dawn of a new generation of games machines. Instead, like last year's Xbox One S, it's an improved version of what's come before.

That said, the Xbox One X will still be the most powerful console money can buy when it launches,

boasting a total of eight 2.3GHz processor cores paired with a custom six-teraflop graphics processor that Microsoft claims is capable of delivering 4K HDR content at a constant 60fps.

On the home cinema side of the equation, the Xbox One X boasts Ultra HD Blu-ray playback via an integrated drive and is setup to handle Dolby Atmos audio straight out of the box. www.xbox.com



The Xbox One X boasts a more compact enclosure than its rather bulky brethren



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#SpiderManHomecoming

Extras...

Small items that could make a big impression...

The Art and Making of Alien: Covenant



Anybody hoping for a book that will lift the lid on some of the secrets

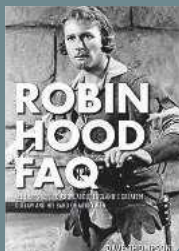
hinted at in Ridley Scott's sci-fi horror blockbuster may well end up disappointed by this rather run-of-the-mill look behind the scenes. However, fans that just want a full-colour peek at the film's creepy creatures and stunning sets will find lots to savour in this £30 hardback.

Funko Pop! Westworld Figurines



It may not be returning to screens until next year, but that hasn't stopped Funko from producing a new range of seven Pop! vinyl figurines based on HBO's superb re-imagining of the sci-fi classic *Westworld*. Priced £13 each, the range consists of Dr. Robert Ford, Young Robert, Dolores Abernathy, Bernard Lowe, Maeve, Teddy and the Man in Black (pictured).

Robin Hood FAQ



The latest addition to Applause's consistently surprising range of FAQ film/TV books is another treat.

This time pop culture historian Dave Thompson explores the historical origins of the Robin Hood myth, before offering a considered and detailed appraisal of the way in which the legend has evolved in literature and on the screen (both big and small). Grab a copy for £20.

Toshiba TVs return to UK

The iconic brand offers something for everyone, so long as it's not HDR

The Toshiba TV brand has made a dramatic return to the UK high street, after unceremoniously pulling out in 2015. It's back with a selection of low-cost HD models and (more importantly) a range of cheapie 4K screens and a flagship OLED 65-incher.

The famous name returns after a partnership deal was struck between Toshiba Visual Solutions Corporation and Europe's largest OEM TV manufacturer Vestel. The actual DNA of the range might not be exactly clear, but what we seem to have is a combination of Toshiba design and Vestel manufacturing might.

Matthew Lang, Pan-European Head of Toshiba TVs and Managing Director of Vestel UK, told *HCC* that this partnership was more than simply a 'badge deal' – a reference to household names which license their logo for use by an unrelated vendor. 'Toshiba design and engineering know-how goes into these screens,' he insists. 'This collaboration started over a decade ago, with Vestel manufacturing Toshiba TVs. There's a very good understanding between the two companies. That technological and design input will continue through the brand-licensing agreement.'

He also suggests that there is 'a very big distinction' between Toshiba and other brands operating in the mid-sector dominated by supermarket chains and other high-volume retailers.

Ultra HD hero

The hero of the new lineup is undoubtedly the X97, a smart-looking 65in OLED 4K TV. Scheduled to arrive in September, this OLED adopts a minimalist narrow bezel design with a low-profile brushed aluminium pedestal.

HCC got to spend some time with the set during its London launch, and can confirm it displays all the familiar OLED attributes, including rich, deep blacks



Matthew Lang: 'Toshiba design and engineering know-how goes into all of these screens'

and vibrant hues. Toshiba claims the screen can present 99 per cent of the DCI-P3 colour space.

Other niceties include MEMC (motion estimation/motion compensation) image processing, which reduces motion blur, and a limited smart TV platform.

One significant caveat though is that this OLED model lacks HDR support – it's SDR only. Although pricing has yet to be officially announced, *HCC* has been informed that the X97 is expected to sell for around £4,000. If true, this could serve to be a bit of a sticking point, as it's difficult to imagine anybody wanting to spend that amount of money on a 4K flatscreen (even a 65in model) that doesn't offer HDR functionality as standard.

Wide range of screens

Toshiba is also rebooting with two UHD LED LCD TV lines. The U77 Series, available in 55in and 49in screen sizes, offers wide colour gamut playback. Both TVs come with DTS TruSurround HD and have brushed aluminium stands. Prices start at £600.

The non-wide colour U67 series is Toshiba's entry point for 2160p. Screen sizes include 65in, 55in, 49in and 43in. While Toshiba hasn't yet offered retail prices for individual models, it's thought the U67 line prices will start from £450.

Like the X97 OLED model, neither LED LCD 4K lines offer HDR support. When pushed, the brand said that HDR was on the cards, but not until second-generation models roll out in 2018.

Both OLED and connected LED LCD models will offer Netflix 4K and YouTube. Amazon Video is not included at launch, although it was hinted that the streaming service would come via a firmware update. Four HDMI inputs are provided as standard on all UHD models.

Toshiba's budget Smart Series, available in Full HD down to 720p, will be available in 55in, 49in, 43in, 39in, 32in, 28in and 24in screen sizes. They feature three HDMI inputs and twin USB connections, and offer the familiar Toshiba smart portal with Twitter, Facebook, Netflix and YouTube. Additional apps are available through the Opera TV Store. Common to all connected models is a ScreenShare Miracast feature, which allows users to cast content from Android devices.

The brand will also sell combo DVD/TVs up to 39in.



Toshiba's new U77 4K LED TV range offers 55in and 49in models

This month's top 10 news stories in handy, bite-sized chunks...



1 Exploring your television

Freeview has rolled out a new feature designed to help Freeview Play users 'get the most out of their TVs'. Freeview Explore allows telly addicts to search programmes by genre or name, as well as introducing a scrolling carousel that offers up specially-curated content from BBC iPlayer, ITV Hub, All4, Demand 5 and UKTV Play. The service also promises instructional videos and info on updates in the 'Help and Alerts' section in the coming months.

2 May the funds be with you

Research released by Barclaycard claims that *Star Wars* fans in the UK spend an average of £800 on the franchise in their lifetime. This amount swells to £2,235 for self-confessed 'super-fans', with roughly £270 of that spent on cinema tickets, and a further £105 splashed on Blu-rays and DVDs.

3 Hospital wins movie room

Newcastle's Freeman Hospital has been awarded a bespoke cinema installation after winning a 'Cine-makeover' competition run by Finite Solutions. The £15,000 prize includes a suite of home cinema kit including an HD projector, a 96in fixed-frame screen and Blu-ray player.

4 Missing tech features?

Are you failing to use your gadgets to their full potential? A report from online retailer LaptopsDirect.co.uk claims that a quarter of Britons are doing just that. According to research, some 26 per cent of those paying for HD satellite channels don't always watch them, with 32 per cent saying they often forget the HD versions exist...

5 A wider world of films

Eureka Entertainment has announced the launch of a new world cinema Blu-ray label. Montage Pictures debuts on September 4 with Argyris Papadimitropoulos' Greek psychological drama *Suntan*. Other titles confirmed for the range include *Kills on Wheels* (a Hungarian comedy about a gang of wheelchair-bound assassins) and the Spanish military thriller *Rescue Under Fire*.

6 Sharp versus Hisense

Sharp is suing Hisense, claiming that the Chinese firm is 'destroying' its brand by putting its name on 'shoddily manufactured' TVs. Sharp entered into a five-year partnership with Hisense in 2015 that lets the latter use the Sharp brand on displays, but Sharp now says that the TVs Hisense put out under its name break US rules on electromagnetic emissions and do not meet wider industry standards regarding device safety. Hisense 'categorically' denies the claims.

7 Box of devilish delights

Black Sabbath has announced a limited edition boxset featuring remastered 180g vinyl versions of the band's first eight albums, plus two 7in singles and a load of other rarities. Available from September 29, priced around £200, *The Ten Year War* box also houses a Crucifix-shaped USB stick containing MQA versions of the eight LPs.

8 Record more

The latest update for Sky Q has enhanced the set-top box's recording functionality, meaning users can now record six channels while watching a seventh. Enabling this functionality comes at the cost of losing the Sky Sports split-screen feature.

9 300 shades of shades

If you're looking for some new blinds for your movie den then you might want to check out the work of QMotion UK. The 'specialist in motorised window covering solutions' has updated its range of fabrics with over 300 new textile designs – meaning that the company should have something to satisfy every taste.

10 Sony cleans up its act?

Sony Pictures' plan to make specially edited 'family-friendly' versions of selected films available through digital outlets has hit a bit of a snag. The studio has had to put its 'Clean Version Initiative' on hold as it seeks the approval of the relevant directors, following a series of complaints from filmmakers Seth Rogen and Judd Apatow, as well as the Directors Guild of America.



Premiere...

What's happening in the world of TV and films...

Smallscreen slaughter



John Wick is coming to the small screen. Sort of. Chad Stahelski is penning a prequel TV series called *The Continental* that will shift the emphasis away from Wick and on to the eponymous hotel chain that caters to the films' assassins.

Conjuring up more supernatural spin-offs

Warner Bros. appears to be using James Wan's *The Conjuring* movies as the springboard for a raft of spin-off fright features. On top of this year's *Annabelle: Creation*, the studio has also announced that *The Conjuring 2*'s spectral Nun and 'Crooked Man' will both be getting their own movies.

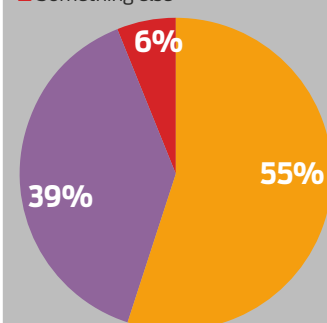
Han Solo goes solo

Directors Phil Lord and Chris Miller have departed the untitled young Han Solo movie in the middle of production following alleged conflicts with Lucasfilm president Kathleen Kennedy. Former George Lucas collaborator Ron Howard has been hired to finish the flick.

We asked...

Is the screen resolution of your main home cinema display...

- 1080p/Full HD
- 4K/Ultra HD
- Something else



Results from www.homecinemachoice.com
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Spirited 4K sci-fi

Ghost in the Shell → Paramount / Universal Pictures
→ DVD/Blu-ray/3D Blu-ray/Ultra HD Blu-ray

Hollywood's live-action reimagining of the hit Japanese animated blockbuster *Ghost in the Shell* is coming home this Summer. Starring Scarlett Johansson, this sci-fi actioner looks set to thrill home cinema fans with its 4K visuals and Dolby Atmos audio when it lands on UHD Blu-ray on August 7, alongside DVD, BD and 3D BD incarnations. Distributor Paramount is also promising 50 minutes of extra features on the 4K and 1080p discs.



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Face to Face

Topics of discussion on the HCC Facebook page

Remakes you prefer to the original film...



Soderbergh/Cameron's *Solaris* (2002). It condenses the themes and story of the near three-hour original into a fascinating 90 minutes and is all the better for it. The soundtrack is incredible too.
Ian Cooper

I like the remake of *The Thing* more, not that the original was bad. Same with *The Fly*.
Mike Wadkins

Gone in 60 Seconds. I think Nic Cage and Robert Duvall really bring the story to life.
Steve Old

What you're watching on your home cinema...



The LEGO Batman Movie Ultra HD Blu-ray on an LG OLED TV with HDR. Dolby Atmos 5.2.4

also enabled. Kids are on the edge of their seats!

Jonny Roman

Watched the Japanese LaserDisc pressing of *The Fifth Element*. Super transfer and a glorious 5.1 Dolby Digital mix.
Alex Russell

Bloodline in 4K on Netflix. Cracking series. *Hateful Eight* on Blu-ray.
Chris Starr



The Space Between Us on Blu-ray and *Hacksaw Ridge* on 4K UHD BD. Wow, what a movie!

Not sure what the neighbours thought of it though!
Mark Edwards

Sadly nothing – my beloved Oppo 103 died at the weekend and I am awaiting a UDP-203 replacement. So I am bereft on the disc front!
Mark Hevingham



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Back of the 'net

Trailers, technology and more to check out on the web



The art of dino animation

CineFix's enthralling series of 'Art of the Scene' videos looking at the making of iconic movie moments returns with this study of the creation of *Jurassic Park*'s T-rex paddock attack, in the process revealing how the film revolutionised special effects and essentially made stop-motion extinct.
youtu.be/oelBtZHKL4c



Got a screw loose?

Sony has recently launched a series of videos explaining how to assemble its 2017 Bravia TVs, which is useful if you've lost the manual, don't know what 'Pozidriv' means or prefer something more visual than stick-man diagrams. Speaker brands with complex spike arrangements, take note...
youtu.be/wBrTtdoyKg



Fight night!

Comedic duo the Auralnauts have taken time out from their ongoing *Star Wars* re-edit to bring us this sportscast-style Fictional Fight Championship commentary for the two major fight scenes from *Logan*. Be warned though: as well as being very funny, it's packed with spoilers – so watch the film first!
youtu.be/SKF6Cyfb8ho



Clear!

Those of a certain age will remember the Kiefer Sutherland/Julia Roberts sci-fi/horror *Flatliners* clogging up video rental shops in the early 1990s – now Sony Pictures has remade the movie, with less famous actors but vastly superior SFX. The trailer has arrived before its September cinema release.
youtu.be/gUDVOCUzG0k



TOP PICK

Urbane jungle

It might not be hitting cinemas until next February, but the first teaser for Marvel's *Black Panther* movie has left fans frothing at the mouth with its mix of hard-hitting action and music by Run the Jewels. Looks like director Ryan Coogler has given the studio another sure-fire box office hit.
youtu.be/dxWvtMOGAhw



NAD embraces Dirac

US amp/processor specialist NAD has announced a tie-in with room correction wizard Dirac, which will see the latter's advanced Dirac Live EQ solution integrated into NAD's Master Series components and custom install lines. 'This partnership is a natural fit,' says NAD.
nadelectronics.com

Flower power?

Triad Garden Array → www.triadspeakers.com



Fancy home cinema in the garden? Green-fingered US speaker corp Triad may have the answer with its new Garden Array range, which features GA4 SAT satellite speakers (with 4.5in ultra-wide dispersion drivers) and the passive GA10 Sub subwoofer (pictured right), which can be bought with an optional underground porting kit – complete with mushroom-style design. Both, naturally, are fully weather resistant, and the satellites are supplied with 18in adjustable mounts/stakes.



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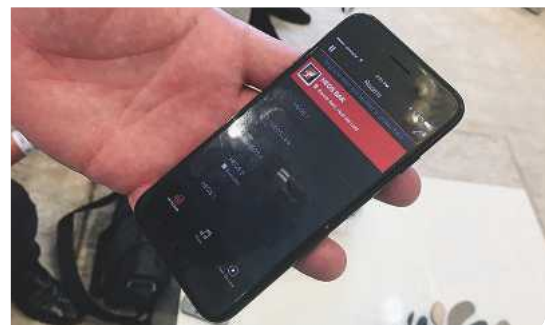
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Denon and Marantz unite behind HEOS

Multiroom audio is the driving force behind a new lineup of home cinema separates from the AV heavyweights. **Jamie Carter** listens in





Two sides to HEOS: Denon's forthcoming 11.2-channel Atmos-capable AVR-X6400H (top); and the more living room-friendly 5.1-channel HEOS AVR

A wireless subwoofer is now part of the HEOS lineup

THE COMPANY BEHIND Japanese audio and video brands Denon and Marantz has promised up to 70 new products built around its wireless multiroom HEOS concept – and there's a heavy emphasis on home cinema.

At a trade preview event in June both Denon and sister brand Marantz showcased a new lineup of home cinema receivers, amplifiers, soundbars and more. And from entry-level to flagship models, it was confirmed that every AV product from both brands will henceforth have HEOS capabilities.

Moving on – and into AV

When HEOS launched in 2014 its immediate focus was on wireless multiroom hi-fi, largely streaming music from phones and tablets, with an initial launch range of three active speakers – the HEOS 3, HEOS 5 and HEOS 7 – along with the HEOS Link pre-amp and HEOS stereo amplifier. But it's always had one eye on expansion into the home cinema arena where both Denon and Marantz have considerable clout – last year HEOS interoperability was introduced to two AVRs, the X6300H and X4300H, plus the Denon HEOS Home Cinema, a relatively simple 2.1 soundbar with a wireless subwoofer.

In 2017, it's heading full-on into multichannel home cinema, both at the AV enthusiast level and with more mass-market propositions. Sitting in the latter category are three big guns: the HEOS Bar, HEOS AVR and HEOS Sub.

However, it won't just be Denon that will push the HEOS concept. Last March, North American company Sound United, which owns loudspeaker brands Polk Audio and Definitive Technology, purchased D+M Group, the owner of Denon, Marantz and Boston Acoustics. It basically puts two home cinema companies in one place; one that specialises in speakers and one that sells fan-favourite AV receivers and home cinema systems. However, it seems that Denon's drive into wireless multiroom and – crucially – wireless home cinema, is a key reason for the deal. 'Over time we'll have HEOS in Definitive Technology and Polk Audio products, too,' says Kevin Duffy, CEO of Sound United, before claiming that HEOS could offer a whole lot more than Sonos, the market leader in multiroom audio. 'We don't want to just chase Sonos, we need to define the customer experience. We can put HEOS technology in our AVRs and in our hi-fi systems to differentiate ourselves against pure-play players that don't have that advantage.'

Although Sonos is the brand to catch, its home cinema offering of the Playbar or Playbase, with expanded configs incorporating extra speakers and a subwoofer, is somewhat limited in terms of skillset. By comparison, the new HEOS gear is more advanced. And demos were impressive.

The £800 HEOS Bar in particular is an extraordinary high-end option compared to most

Left: Definitive Technology Atmos floorstanders; Sound United's CEO Keith Duffy; the HEOS app for iOS/Android

System rivals

A quick guide to HEOS' multiroom challengers...

Sonos



Market leader Sonos launched in 2006, but system expansion has been limited. Current models are the Play:1, Play:3 and Play:5 speakers, Playbase (pictured) and Playbar, plus pre-amp and amp modules. No Bluetooth streaming or hi-res audio playback here – but plenty of music service integration.

MusicCast

Yamaha's system is the most obvious HEOS rival, as it too incorporates AV receivers and soundbars (plus even a piano). AVRs this year will feature Amazon Alexa voice control, adding another level of usability. Other brand Bluetooth speakers can become MusicCast zones.

Bluesound

Positions itself as the audiophile multiroom option – this means hi-res file support across its speakers/stereo components and soundbar (including the MQA format), combined with custom drivers and cabinet design. The range includes a CD-ripping vault.

Denon's AVR range now features Dolby Vision HDR passthrough



HEOS allows for wireless 5.1 systems

soundbars – and is streets ahead of Denon's own 2.1-channel HEOS Home Cinema. It's 50in long, so designed for largescreen displays, with L-shaped feet that help it clear the desktop stands of TVs; on-wall fixings; and a logo that can be rotated to suit whether it sits in front of a TV, or hung on a wall.

The 'bar's connectivity runs to four HDMI inputs (all HDMI 2.0a/HDCP 2.2), ARC HDMI output, optical and coaxial audio inputs, a 3.5mm stereo jack, a USB slot and an Ethernet port. It uses the 5GHz band to connect to any HEOS speakers, and aptX Bluetooth for smart device streaming. Crucially, DTS-HD Master Audio, Dolby TrueHD and support for hi-res audio are also here, as are IR repeaters for use in conjunction with TV remote controls.

On its own, it functions as a 3.0 setup, and there's more than enough mid-range and low-end in its left, centre and right channels (it uses nine drivers in total) to create an impressively powerful soundstage. Add the HEOS smartphone app, streaming from phones via Spotify Connect, Deezer, TuneIn, SoundCloud, Tidal and web radio, and it makes for an ideal (and seeming much better-sounding alternative) to a Sonos Playbar in a living room.

The HEOS Sub can be attached, but in my demos this didn't seem overly important – the 'bar probably sounds good enough for most potential customers sans sub, particularly as it will save £600 on the system price. Call up a pair of wireless HEOS speakers (HEOS 1 speakers were used in the showcase setup) and you've got an instant home cinema. You could have HEOS units around the house – one in the kitchen, another in a bedroom – and bring them into the living room when you want to ramp up the immersion for movie night.

Meanwhile, the compact, wireless HEOS AVR is suited to anyone interested in making a gradual transition into multiroom home cinema. Though the major feature is its HEOS connectivity, design is also key; it has no front-panel display and a discreet aesthetic. Most importantly, the HEOS AVR can also take wired speakers, allowing it to be slotted into an existing home cinema setup, with cable-free HEOS speakers (surround channels only) and sub to be added at a later date. It's even possible to link the wireless HEOS AVR to the HEOS Bar if you want to use wired rear speakers.

The only system constraint of the HEOS AVR is its 5.1-channel form. If you want more than that (including Atmos and DTS:X playback),

attention turns to the more traditional receivers from Denon and Marantz – and they're not all and only about HEOS.

Unveiled at the trade preview were the £430 Denon AVR-X1400H and £500 AVR-X2400H (both available now), and the AVR-X3400H (£900, August), all 7.1-channel models. The 9.1-channel AVR-X4400H (£1,300) and 11.1-channel AVR-X6400H (£2,100) will follow in September.

Marantz's 2017 AVR lineup will also get HEOS goodness, in the shape of the 5.1-channel NR1508 (£500), 7.1-channel NR1608 (£600) and nine-channel SR6012 (£1,100, August) and SR7012 (£1,500, October).

As before, Denon and Marantz like to keep their 3D audio options open, so upgrades for the Auro-3D format will be an option on higher-spec models. Furthermore, all receivers offer Dolby Vision passthrough and will do the same for Hybrid Log-Gamma HDR following an update later this year.

Intriguingly, Sound United also announced that both Denon and Marantz would be launching 'flagship' power amplifiers in 2018 destined for use in high-end cinema setups. Details were scant, beyond the fact that the Denon model will be 13.2-channel, and the Marantz 11.2.

As for fellow Sound United brands, Polk Audio's presence at the trade preview centred around a new European-tuned MagniFi Max SR soundbar. This will ship with both a wireless sub and wireless surrounds when it arrives in August priced at around £650, with HDMI connectivity and integrated Chromecast topping the spec sheet. A version without the surround speakers will cost £500. Meanwhile, Definitive Technology's BP9080x floorstanding speakers were brought out to highlight their clever in-built Atmos driver and active subwoofer design, as part of a 13.2-channel array using Denon amplification and processing – a nice combination.

'Our mission is to bring joy to the world through sound – that's our craft,' boasts Duffy. 'D+M could have been acquired by a financial investor, but instead it's by a company that loves music.'

The suggestion is that home cinema hedz can expect products from the company's enlarged stable of brands to be bundled and promoted together, which brings the spectre of enticing discounts. And expect to see HEOS across numerous Sound United products within a year or so as wireless – after many false dawns – gradually becomes the future of AV ■

Hygge.

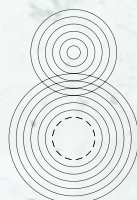
Who says it needs to be all about lamps and couches?

“What are you doing for your 40th birthday?”, everyone asked. We thought about it and decided that since we aren't wild about lavish cakes (although we do love a tasty fastelavnsbolle), we'd celebrate a little differently. Even the *thought* of making new speakers makes us warm and fuzzy, so that's what we chose to do.

Meet the Special Forty: hygge for your ears.

Laurels aren't for resting on, which is why we gave Dynaudio Labs free rein to play. (It gave our accountants a heart attack.) Our only instruction: take our classic tech and see what you'd do differently this time. Their design was nothing short of genius.

They took our classic Esotar 28mm soft-dome tweeter design, put our DSR* precision coating on it, and then **machined an aerodynamic vent** directly into the powerful neodymium magnet. Then they added more damping material and another pressure-release conduit. Take it apart and look behind it: it's a work of art (except please don't; we spent ages putting it together).



We made the drivers' frequencies overlap so we could keep the first-order crossover simple. After all, why add things that might affect the signal if you don't have to?

We called the new tweeter the Esotar Forty, and it's exclusive to this speaker.

We also gave the Special Forty a new woofer, made from our own super-stable Magnesium Silicate

Polymer. Its dome is coupled directly to the voice-coil for incredibly precise midrange performance. That's aided by the **new AirFlow Basket** – an aerodynamically shaped chassis that optimises rear airflow and isolates the driver from unwanted vibrations and resonances.

The woofer also has a **custom magnetic field** – one we created in the lab – thanks to a unique hybrid magnet system. It's part ferrite, part neodymium, and it physically manipulates flux to bend it around the voice-coil for greater power and efficiency.



The magnet sits inside the voice-coil (others put it outside). That lets us beam its energy to where we want it to go – not where it wants to go.

Those innovations mean the tweeter can reach down to 1000Hz, and the woofer up to 4000Hz. That overlap means smoother integration between treble and bass, and **performance that borders on mesmerising**.

We don't want to bore you with the maths, so here's the English: the extra air movement and flux containment means we have more control over how the tweeter and woofer move. And that means **a more detailed, precise and honest performance**. Just what we (and you) want.

This is a simple-looking speaker. Sure. But wait until you see its Grey Birch High Gloss and Red Birch High Gloss finishes. We painstakingly laminate Finnish Birch veneers many, many, *many* times and cross-cut

them to achieve this striking pattern. Then we use special stains to bring it out even further. Nice, isn't it.



The biggest decision you'll make today: Red Birch High Gloss or Grey Birch High Gloss? (Or just get one of each. You know it makes sense.)

We want to know what you think.

Join our Special Forty group and together we'll take our technology to the next level. That's right: you can be actively involved in shaping the future of our R&D. And you might even find your idea making it into our next-generation speakers. There's a fastelavnsbolle – and warm feelings of hygge – in it for you if you do.

www.dynaud.io/SpecialFortyForum

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*Wondering what 'DSR' stands for? It's Dynaudio Secret Recipe. And that's all you're getting out of us – apart from a fantastic tweeter, of course.

Sony's man with the plan

CEO Kaz Hirai tells **John Archer** how he's turning his company's fortunes around – starting with a little something called 'Kando'...



Hirai on 8K: 'To give the impression that there's an 8K TV coming down the pipe is not a good message to send out...'

AFTER YEARS OF growing losses and workforce layoffs, Sony seems to be back on the up. It's enjoyed a journey into profit that many industry commentators credit squarely to Kazuo Hirai: the man appointed President and Chief Executive Office of the company in 2012, replacing former exec Sir Howard Stringer. Earlier this year, I sat down with a typically honest and open 'Kaz' Hirai to find out how he's gone about turning the Sony ship round.

How do you assess Sony's progress under your watch?

I believe Sony's electronics business is finally on a path to sustained profitability, but I would not say the job is done. Our electronics business has become profitable overall; the TV business actually just had a very profitable year. So we all see 'the way out of the woods' – but we are not there yet.

My message to employees and all other Sony stakeholders is that this is not the time to put the car into cruise control. We need to make sure we're in the driving seat, holding on to the steering wheel.

Since I was appointed President and CEO, I've said that product competitiveness and differentiation are crucial to the turnaround of our consumer electronics business. In particular, we need to marry functional value with emotional

value in every product we bring to customers. Some believe there's not much room for innovation in hardware now, as the consumer electronics market is generally considered to have matured. But I disagree with this wholeheartedly. I think we at Sony demonstrate that this is not true every day by making even traditional AV products that can still wow customers. Products which resonate with consumers at an emotional level. We call this effect 'Kando' ['emotional involvement'].

Sony wants to place Kando products directly into the hands of customers around the world. Whereas telecoms companies talk about 'the last one mile', I want to get a little more personal with what I call 'the last one inch.'

I've seen research suggesting consumers are abandoning brand loyalty in favour of just finding whatever products have the features and prices they want. Is branding still key to Sony's business model?

Our brand is the most coveted asset we have. It has been so for the past 71 years, and is the basis for everything we do in terms of our commitment to innovation and quality. If there's any inkling in your

mind that we feel the Sony brand is not important, I need to correct your thinking right here and now!

I guess about 10 years ago we started down a path of 'let's just compete on features, functionality and price'. But that's not the right approach, at least for Sony. Since I became head of the consumer division five years ago and president of Sony four years ago, I've made sure that our commitment to the emotional value of our products is something all our product people understand as not only something that [I'm] expecting but, more importantly, something the consumer is expecting.

Why wait until 2017 to launch your first bigscreen OLED TVs?

A variety of factors came together that made us think we could provide a compelling Kando experience with an OLED television.

One of these is the X1 Extreme chip we developed for our Bravia TV line. This enabled us to deliver a huge contribution to OLED picture quality despite the fact that we don't manufacture our own panels.

Then there's our acoustic surface technology. This is something our engineers came up with to eliminate the OLED TVs' speaker box, contributing to a more sleek form factor.

Thanks to these factors Sony could say 'here's an OLED TV unlike anything you've ever seen before.'

Do you see OLED taking over from LCD?

We named our OLED TVs Bravia OLEDs precisely because we're not going to replace LCD with OLED. We just wanted to give consumers more choice within the overall Bravia line. We don't expect OLED to suddenly take over from the LCD business; it's a very differentiated product.

Where do you see the future of television heading?

Whatever the actual technology is – LCD TVs, OLED panels – there's always going to be a need to watch and enjoy content at home through some device.

Where we're trying to push the envelope is around the idea that you don't really have a traditional TV *per se*. This is what our Lifespace projectors are all about. Some people appreciate the idea that they don't have to have a black rectangle in their room all the time. You can have just a wall left behind once the projector has been turned off.

What about 8K TVs?

Right now I think the industry is generally talking about 4K and now HDR, so to give the impression that there's an 8K TV coming down the pipe is not a good message to send out. That's saying: 'don't buy a 4K TV now because 8K is coming,' when in reality there's currently no way to transmit and deliver 8K content to households. Let's not obsolete technology that's only just started to be accepted. It's like saying 'The PS4 is great – but PS7 is coming!'

Do you think there's a long-term future for physical media?

Streaming is now becoming more and more

Back in black

Sony hits jackpot in 2017 following lean years

In April this year, Sony cheered investors by announcing a forecast operating profit of \$4.5bn through to March 2018 – a 72.3 per cent yearly increase and close to its record-breaking return for 1998, an era when its PlayStation dominated the games console market.

While its PlayStation division is again faring well, buoyed by its PS4 and PS4 Pro consoles, Sony's image sensors – found in smartphones and cameras – are also proving highly profitable.

The high operating gains are also attributable to the fruits of previous restructuring – Sony pledged a 6 per cent workforce reduction in 2012 – and the shuttering of some weaker parts of its business empire, such as its PC division, which was sold off in 2014.

As for TVs, Sony deemed the business in need of an overhaul in 2011, following significant losses. A shift to high-end models and improved operating efficiency were outlined as key parts of a policy to bring TV profit back into the black.

mainstream, but only in certain territories and countries. If you're in the US, Japan and most of Europe there's broadband access, and so people are moving to streaming. But there are other territories where you still need physical media because the bandwidth isn't there, or it isn't affordable.

Also, as shown by the resurgence of the analogue record in music, there's a certain population where the actual physical media itself is the reason they want to listen. They like having something tangible in their hand, and going to a CD shop and picking a disc up to add to their content library is part of the whole home entertainment experience.

How involved are you personally in the making of Sony products?

Some things I'm involved in from the very beginning. With others I focus on improving a specific area that's of personal interest to me.

Take, for instance, the 4K short-throw Lifespace projector (VPL-VZ1000ES, see p66). That was something I first saw at a technology fair at our R&D centre, and I said to the engineer: 'This is fantastic, when are you going to put it into a product?' But the engineer said no business units wanted to put it out. So I told the engineer that I was going to have him commit to putting this product into market himself by the next holiday.

Another example involves television. Every time I used to see a mock up of a TV in a design studio it looked fabulous. The only problem was, nobody connected anything to it. So when you took it home and connected all your HDMI cables you suddenly got something that looked like an octopus. So I said I didn't want to see a single cable coming out of a TV ever again. Achieving this took three or four years, but last year I think we perfected it.

One way to look at it is that it's a passion of mine to make sure every Sony product that goes out of the door is something I would be proud to show to my parents, or my wife, or the kids. If I'm not happy, then I don't think other consumers will be happy either ■



Hidden cabling: a key part of Sony's 'Kando' ethos

A full-page background image of Hugh Jackman as Wolverine. He is standing in a desolate, hazy landscape under a bright, orange-hued sunset or sunrise sky. He is wearing a dark, worn leather jacket over a light-colored, button-down shirt. He has a beard and a serious, intense expression, looking directly at the camera. His adamantium claws are extended from both hands, pointing downwards. A large, stylized red scratch or tear runs diagonally across the center of the image, passing behind the main title text.

One last ride for The Wolverine

Logan sees Hugh Jackman's adamantium-clawed mutant face his toughest, most personal challenge, and takes the franchise into a new, dark direction. Director **James Mangold** discusses 'R' ratings, Westerns and superheroes needing a phone charger

JAMES MANGOLD, FILM/TV director, screenwriter and producer, has a CV including *Walk the Line*, *Cop Land*, *Girl, Interrupted* and *3:10 to Yuma*, not to mention 2013's *The Wolverine*. The follow up to that superhero blockbuster, currently marked as the final part in Twentieth Century Fox's Wolverine series, is *Logan*, out on Blu-ray/4K Blu-ray this month (and reviewed on p104).

Was it difficult getting the studio to agree to make an 'R-rated' superhero movie?

It would be sexier to tell you that it was a battle but I think studios are aware that something's got to change, and there is interest in experimentation. You can spend a quarter of a billion dollars on a movie and find that audiences aren't always as big as they were five or ten years ago. Also, there was the fact that both Hugh [Jackman, *Wolverine/Logan*] and I were pretty solid on the fact that we didn't want to do it if it wasn't different. It was really that simple.

So the studio was faced with a choice of making the movie as R-rated and along the lines we wanted, thematically, or they could make a movie with other people. Obviously, that was more persuasive coming from Hugh than me! Nonetheless, our own sense of partnership was strong with them. And I didn't find a lot of people saying, 'We just want to make a film that's like the last couple.' There was a desire to see something done differently.

Do you think the success of *Deadpool* helped convince them?

The short answer would be 'yes'. The longer answer is that we had written *Logan* and told them we were making ours before *Deadpool* came out. But I do think that they knew what they had in the can with *Deadpool*, and I think they had a tremendous sense that there was a lot of interest. And even executives have to trust their own eyes and ears sometimes and I think they had seen *Deadpool* and knew it was a lot more fun. We were not promising the same sense of fun. This is a whole other thing.

Might this film's success spark more 'adult' superhero movies?

I don't have aspirations to have that kind of effect on people. Where *Deadpool* did help is that other people make movies in their own voices, whatever that means. When I look at *Logan* I try to look at it objectively, and I am proud of it. The reason I was hesitant to make another superhero film was that I really wanted to make a personal film after *The Wolverine*, a smaller film. I needed to use the same voice I used making *Girl, Interrupted* or *Walk the Line* or *Cop Land* or *Heavy* [award-winning 1995 drama]. I needed to construct something that felt like a reflection of what I was feeling about myself, the world, these characters, and that was most important to me.



James Mangold: 'I wanted to make a very bloody version of *Little Miss Sunshine*'



Hugh Jackman's next project is Fox's PT Barnum biopic *The Greatest Showman*

I would love it if other directors and writers were given the opportunity to do that, even with fantastical characters, because it can be done. Fans are sometimes at a contradictory place. They want the movies to be able to be cut almost together like a seamless miniseries. That doesn't promote being creative. That actually promotes making the world's most expensive television show!

As the final film in the series, how did you feel shooting the last scene?

It was moving and we all felt the reality of what had happened. Though for me, as director, I'm shooting in the middle of the woods... Daylight is diminishing and I'm shooting very significant scenes. I am on my last day of production. As the sun sets I know that this is all I've got to catch the end of the film. So my mind is not on sentimental things. I experienced the emotions you're referring to in Berlin when the three of us, Patrick [Stewart], Hugh and I were sitting side by side in a theatre and we kept grabbing each other's hands. We felt very proud and I think those two felt more of a finality of their own journeys in these roles in that moment in the theatre than they might have felt scrambling for shots knee-deep in blood and dried leaves on location.

There were a lot of violent sequences to shoot...

They were a bit less intense than how they appear in the movie. It is a little bit more of what it is like to shoot a dance number, however out of control they feel. We do have laughs along the way. We didn't exist in a 74-day Bergman film. We are a family and part of the way you sustain your energy making a movie, even if it is dark, is by having some laughs and enjoying each other.

Why did you choose Dafne Keen for the role of X-23?

There have been three times in my life, including with Dafne, where you just get a glimpse of this person you know is right for the role. I could not put a finger on why, other than it is what I wrote. My writing partners and I had written a demanding role for Hugh Jackman and a demanding role for Patrick Stewart. There was no one else who could do



Newcomer Dafne Keen as junior mutant X-23

Logan's run...

Charting Hugh Jackman's 17-year *X-Men* career

X-Men



Wolverine's story arc is the focus of Bryan Singer's franchise opener, which arguably kickstarted the current superhero movie boom upon its release in Summer 2000.

X2: X-Men United

Singer again helmed this solid follow-up (2003). The opening Nightcrawler attack sequence is an HCC favourite...

X-Men: The Last Stand

With Singer departing to tackle *Superman Returns*, X-hedz worried Brett 'Rush Hour' Ratner was an odd choice to direct this threequel in 2006. They were right.

X-Men Origins: Wolverine



The first *X-Men* spin-off (2009) took Jackman all the way back to 1845, charting Logan's progression from backwoods boy to present day claw-handed anti-hero. Good... but not great.

The Wolverine

A more rewarding standalone outing for Logan, fitting chronologically between *...The Last Stand* and *...Days of Future Past*, and featuring ninjas!

X-Men: Days of Future Past

Jackman only cameos in the 2009 prequel *X-Men: First Class*, but here he's the bridge between the series' past and present. A superior franchise entry, with Singer returning.



those roles but there is also a tremendous confidence in each of those actors, their desire and the ability to do what we'd written. They both exceeded my expectations, particularly in Patrick's case. I think for a man who is such a stout, elderly gentleman, it showed courage to let it go. There are a lot of actors who spend a great amount of time in their later years trying to convince people that they are not old, and a role like this might be a threat to them... I think he knew what the movie needed and he went there.

What were the other two times?

One was Angelina Jolie in *Girl, Interrupted*. When actresses do readings for movie auditions there are just a couple of scenes but Angie had gotten the whole script... and she read the two requisite scenes she was supposed to read and then looked up and said, 'Want to keep going?' And she read every scene her character had in the script right up to the end. It just blew me away. And, similarly, when Ben Foster came in and read for *3:10 to Yuma*. His take on the character, his connection. It was amazing.

I saw the tape of Dafne... a little iPhone film that her dad who is a British actor [Will Keen] had made with her. First of all, she was charming. She was climbing around their home on bookshelves and leaping to the ground and doing somersaults... But what really struck me most was the grounded nature with which she was speaking the words and doing the scenes. I immediately felt a tremendous relief because it was the greatest question mark — who was going to come in and do what was required of that character at just 11 years old?

Did you have conversations with her parents about what you would put her through in terms of action/violence?

We spoke in great detail... The fact that I am a dad of similar-aged kids may have been some relief to them. But the dominant thing I said and tried to maintain... was that there was a feeling of family as we made the movie. The mood and tone of the film isn't what it was like shooting... I think from a child's point of view making a film like this is like a never-ending Halloween celebration. It is hanging out with a lot of friendly people you know... wearing odd make up, and there's a guy with a blood bucket and sponge.

The film mixes superhero and Western genres. Was that hard to achieve?

No. It's a very natural fit. I don't think superhero films are a genre. They're just movies; there are many kinds of superhero films. There are as many kinds of comic books as there are novels. There are war comic books, noir comic books, romantic comic books... Comic books as a genre is a non-descriptor and it is kind of a pejorative because it's a way of saying stupid or childish. I reject it because there is no genre called 'childish'. Or it is a way of saying movies that are built to sell other movies and Happy Meals and



Jackman and Patrick Stewart: The X-Men's own odd couple

action figures, which is still not a movie, not a genre; it is just a sort of corporate enterprise. I think that you can learn as much following a Lee Marvin movie or a Sam Peckinpah film or a George Stevens movie or a Clint Eastwood film. The only aspect that is different is these characters [superheroes] have some kind of talent — but that is usually true of a Dirty Harry or a Popeye Doyle. They usually have some magical thing that makes them more successful at nailing the bad guy. So superhero films and Westerns are not really that disparate.

Logan heavily references George Stevens' *Shane* — where did that idea come from?

Right after I made the last *Wolverine* film. I have always loved *Shane*. I watched it with my dad on TV when I was a child and there was a restored version of *Shane* presented at the Academy in Beverley Hills, a beautiful new print of the film, and George Stevens' family asked me to deliver some opening remarks and introduce [it]. And probably the act of doing that reawakened things for me.

Despite the film's dark tone, Patrick Stewart gets some very funny dialogue...

We just had fun with these characters. I loved that. I think the humour is a lot less bawdy... It is more about a smile in the brain than a laugh out loud, but you definitely need it. You need rest between action and you need moments of levity. For me, the goal was not doing jokes or smart repartee. When I first pitched the film to Fox, I said I wanted to make a very bloody version of *Little Miss Sunshine*.

The humour I wanted was more 'slice of life'. There aren't many *X-Men* films where you hear Charles tell Wolverine that he has to pee, or where they are stopping at a convenience store to get a phone charger. That mundaneness of life is something I have never seen in these types of films. What happens if life as a superhero isn't about existing in a billion dollar cave with millions of dollars of computer equipment and a copyrighted vehicle and a jet plane on a landing strip? What if things are a little more humble in reality? ■

Logan is available on Digital Download, Blu-ray™ and DVD from Twentieth Century Fox Home Entertainment

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Dolby Vision touches down

John Archer checks out the first Dolby Vision Ultra HD Blu-rays – and it's fair to say he likes what he sees



Despicable Me (and its sequel) are the first Dolby Vision Ultra HD discs



MUCH AS HOME cinephiles have grown to love high dynamic range technology, it can also be an exercise in frustration. There are many variables in the way different TVs use their processing systems to handle the industry standard HDR 10 format, so many that discs never quite look the same from one screen to another.

This is where Dolby Vision comes in. While this premium HDR format (an optional aspect of the Ultra HD BD specification) can't guarantee that an HDR movie always looks identical, it's designed to at least help a TV deliver the best results it can from the source. It achieves this by carrying an extra layer of metadata information created during mastering

Oppo's UDP-203 received its Dolby Vision firmware update in June



that provides details of the characteristics of each frame.

Dolby Vision was previously only available in the UK on a handful of Amazon and Netflix streams. Now it's arrived on our format of choice, 4K Blu-ray.

To enjoy it you need three things: a Dolby Vision-capable 4K HDR television; a Dolby Vision-capable Ultra HD Blu-ray player; and an Ultra HD Blu-ray that carries a Dolby Vision encode.

On the TV side, this essentially means an LG OLED or SJ series LCD; a Loewe OLED; or a Sony ZD9, A1 OLED or XE93/XE94. Dolby Vision will be added to those Sony models via firmware later this year. The only Dolby Vision-capable UHD Blu-ray players at the time of writing are the Oppo UDP-203 and UDP-205, and LG's UP970, while the only Dolby Vision Blu-rays available for test were the recently released *Despicable Me* and *Despicable Me 2*.

I used an Oppo UDP-203, LG OLED55C7, and both *Despicable Me* titles. The same TV was used to compare the Dolby Vision and non-Dolby Vision versions of both films (the discs play in HDR 10 on decks that don't support Dolby Vision). This meant a Panasonic UB900 4K player had to be used for non-Dolby Vision playback.

Now, experience with Netflix's Dolby Vision streams had prepared me for some improvement in the DV UHD Blu-ray image, but the extent of the improvement was palpable.

The first element to strike me was how much brighter and crisper the image's peak highlights looked. The moon behind supervillain Gru as he announces his plan to steal it glowed more intensely, and the stripe down Vector's orange tracksuit looked a more pure and defined white. I hadn't thought it possible to get such bold-looking highlights from this year's OLED TVs.

Light enhancement wasn't limited to bold, peak whites. There was a more controlled look to the way light was used in every part of the image, resulting in a greater sense of solidity and depth. The DV picture also showcased more colour, detail and general insight in dark areas, and a richer contrast.

Another surprise concerned detail overall. Dolby Vision doesn't magically add pixels to the 4K picture,

but its precise metadata control seemed to enable better pixel differentiation, amplifying the sense of clarity and texture. And the Dolby Vision tone mapping system left more detailing in the brightest parts of the picture than LG's OLED managed when left more to its own devices with HDR 10.

Pushing the palette

There's one last massive component of Dolby Vision's Ultra HD Blu-ray success: colour. Tones across the board looked richer and bolder, and better blended, perhaps a by-product of DV's 12-bit workflow. Some tones actually looked completely different to those in the HDR 10 image, but I never doubted that it's the DV picture which was getting things right.

As with the improved light controls, this impacts every shot in the Universal 'toons. To sum it all up, the Dolby Vision version is clearly superior.

Brands such as Samsung and Panasonic, which currently don't support Dolby Vision, argue that they can deliver Dolby Vision-esque results from HDR 10 using their own processing. However, while *Despicable Me* in HDR through arguably Samsung's finest TV to date, the full-array LED UE65KS9500, carried some strengths in terms of both general and peak brightness, I couldn't get it to match Dolby Vision's colour and especially contrast refinement. I kept thinking: 'I'd love to see how Dolby Vision looks on such a premium TV.'

Samsung has unveiled a new royalty-free HDR format, HDR 10+, that introduces dynamic metadata. However, while Amazon has committed to supporting the format, no sources yet exist with which we can draw comparisons. And HDR 10+ is currently only supported by recent Samsung TVs, and is not part of the 4K Blu-ray specification.

It's taken more than a year since Ultra HD Blu-ray's launch for the first DV title to appear. There may be an issue going forward with how many discs carry the format. Rumours abound that Disney will unlock its *Star Wars*/Marvel library in 4K with DV, but nothing is confirmed.

Yet from this initial experience – albeit with animated titles – it appears a tantalising upgrade for AV fans ■

The drip, drip of DV discs

The few titles yet confirmed

Power Rangers



While *Hunger Games* fans may hope Lionsgate heads into its vault for a DV re-release of that franchise, the studio is kicking things off with this live-action teen-friendly superhero caper, available from July 31.

Resident Evil: Vendetta

An animated spin-off to the Milla Jovovich horror franchise is how Sony Pictures is getting its Dolby Vision ball rolling, joined on 4K Blu-ray by a Dolby Atmos soundmix. Currently only listed for a US release from July 18.

Fast & Furious 8

Universal has already outed *F&F 6* and *F&F 7* on Ultra HD Blu-ray with HDR 10 encodes. But for the recent eighth entry in the series, it has confirmed a Dolby Vision HDR makeover. Bizarrely, while the disc is available now in the US (region-free, of course), it apparently won't screech into view in the UK until mid-October.



LG's line of 'Super UHD' SJ models – SJ800, SJ850 and SJ900 – are currently the most affordable Dolby Vision-capable sets

Lights, Xbox, action



Hidden speakers, a retractable projector screen and clever console setup mean this spacious media room whets our appetite

KIT CHECKLIST

SONY: VPL-VW300ES native 4K SXRD projector
YAMAHA: RX-A3060 9.2-channel AV receiver (Dolby Atmos and DTS:X capable)
AMINA: 7.2.2 'invisible' speaker system
PANASONIC: Blu-ray player
CRESTRON: CEN-RFGW-EX gateway; HR-150 remote
VUTECH: Vu-Flex Pro motorised 116in projector screen (floor-mount operation)
LUTRON: Sivoia QS Blinds; QS Homeworks lighting system
MICROSOFT: 3 x Xbox One consoles
WYRESTORM: SW-0402-MV-HDBT PIP multi-view scaler/switcher (4K)
MIDDLE ATLANTIC: Equipment rack



YOUR HOME CINEMA room doesn't always need to be a dimly-lit tech cavern, based around uniform dimensions. This movie/gaming space, designed and fitted by Essex installer Clarke Infinity, not only makes sure to let natural light flood in so it can be used all day long, but works with the sloping ceilings and bay windows of the original room to find a natural space for its projector screen, kit rack and bar/kitchen area.

The brief for the cinema included Dolby Atmos audio and largescale visuals, but with electronics kept discreet and comfort and flexibility paramount.

For the speakers, Amina models were therefore chosen – truly invisible options fitted in-wall, with their panels then plastered and painted over. Two in-ceiling models bring the Atmos height.

The speakers are wired into a Yamaha Aventage receiver, housed in the cleverly concealed – but easily accessible – kit rack.

A 4K-capable Sony projector (ceiling-mounted) creates the immersive visuals. The screen is a 116in, rising-arm model from VuTech.

The result is a room that can hide its AV secrets, joined by smart control of lights, blinds and equipment – and with multiscreen Xbox gaming thrown in for good measure... ■

A. Down and out

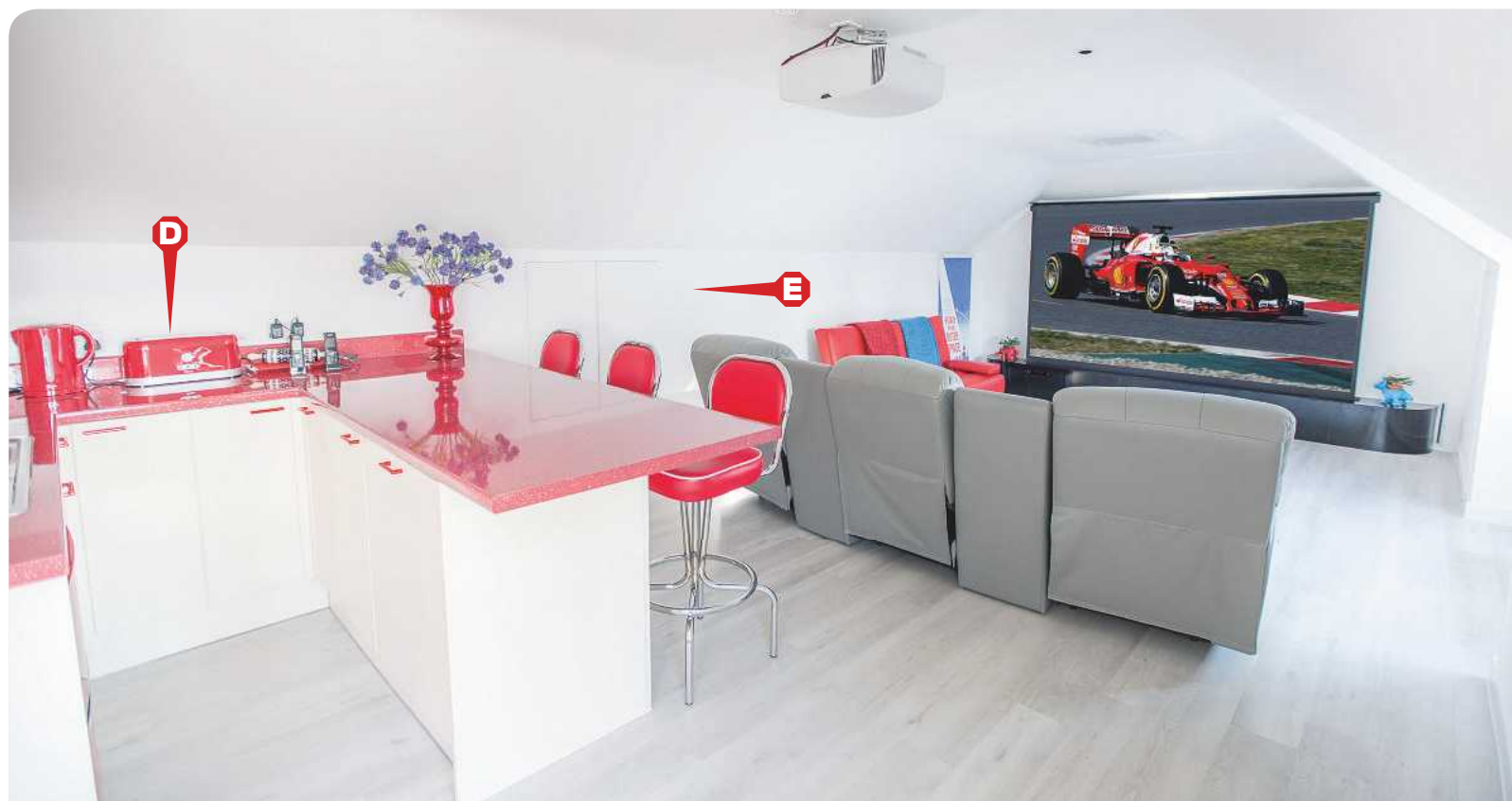
The VuTech Vu-Flex Pro projector screen descends into its housing (an easier-to-accommodate solution than ceiling installation) when not in use. The wall behind features a porthole window, which the owners were keen to retain – a fixed screen would therefore not be an option

B. Blending in

Sony's 4K-capable VW300ES projector is the only hardware left on show when the cinema room is in shutdown. Opting for the white chassis model means it blends in well

C. Pull up a pew... or a stool

The room features three dedicated cinema recliners, but there's additional seating in the form of a sofa and bar stools



D. Take a break

Fancy a mid-movie snack? At the back of the cinema is a kitchen/bar area

E. You can't see me

The speakers are from Brit innovator Amina – low-profile, plaster-over models that are completely invisible in the finished room

F. Game on for everyone

With three Xbox Ones in the setup, and a Wyrestorm PiP splitter, the family can enjoy online multiplayer games viewed on the same screen

G. A cunning plan

The recessed kit rack is hidden from view via a pulldown poster for Ed Wood's sci-fi 'classic' *Plan 9 From Outer Space*

H. Object audio of our affection

Yamaha's RX-A3060 receiver process the nine-channel sonics, with support for Dolby Atmos and DTS:X formats



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REVIEWS

→ **HARDWARE** **SAMSUNG** Second-generation 4K Blu-ray player and curved MU9000 4K HDR TV **SONY** 55in Bravia A1 OLED TV, Dolby Atmos HT-ST5000 soundbar and Lifespace short-throw PJ **TANGENT** Floorstanding 5.1 speaker package **TCL** Bargain-priced 55in 4K TV **AVEGANT GLYPH** A 65in screen for your head... **GROUPTEST** £400-£700 soundbars **AND MORE!**

Wall of sound

ATC employs its bespoke driver technology in a new series of on-wall speakers for a sleek AV setup. See p44...



HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

**MONKEY
BUSINESS**

Should you go ape
for the Blu-ray
of *Kong: Skull
Island*? p96





The A1 OLED blends performance power with cutting-edge design.

John Archer can't get enough of it

Dressed to impress

Sony isn't completely new to the OLED TV game; its first model came out way back in 2008. That particular set failed to make much of an impact on the home cinema market, though, due to its screen only being 11in. The company has now returned to the OLED TV fray – and this time it's out to make a very big home cinema splash indeed.

For starters, Sony's new A1 OLED range is big. I'm auditioning the £3,500 55in model here, but there are also 65in and 77in flavours for people with enough space and spare cash to handle them.

And the A1 is also almost impossibly beautiful. From the front its gleaming single-layer fascia, ultra-slim black frame and complete absence of any visible stand support make it look like you're just watching pictures emerging out of nowhere.

To make this 'picture only' design possible, Sony supports the screen at a slight lean-back angle on a pull-out prop leg. This design approach stops the A1 from achieving the ultra-thin look associated with many OLED displays, but I for one don't find that an issue. It's how a TV looks from the front rather than the side that's important.

The rear prop isn't just there for support. It also carries an 8cm bass driver (described by Sony as a subwoofer) to provide low-end back up for the acoustic surface speaker technology built into the 55A1's screen.

This sound solution is interesting: in a world first, Sony's OLED preserves its screen-only design by using flatpanel exciter technology to make its actual panel function as a speaker. What's more, Sony has somehow managed to get the single plane of the A1's screen to deliver a stereo effect.

There's no way this sort of science-fiction madness could possibly work, right? Wrong. The 55A1 actually sounds rather excellent, filling your room for most of the time with a rich, well rounded and warm sound that works equally well for music and movies.

The TV only becomes less than an absolute pleasure to listen to when pushed to extremes by the most bombastic parts of a movie soundtrack. The mix for *Dredd* >

1. The A1 OLED sports a feet-free, slim-frame design

2. Perhaps not the premium-style remote you're expecting...



AV INFO

PRODUCT:
A 55in 4K OLED TV
with HDR support

POSITION:
On a kind of flagship
par with Sony's ZD9
LCD models

PEERS:
LG OLED55E7;
Loewe Bild 7-55;
Samsung QE65Q9F

(Ultra HD Blu-ray), for instance, gets so heavy on bass and volume at times that it caused a few crackles and drop outs. I also found the soundtrack basslines bottoming out a touch earlier than they would with the very best-sounding TVs.

Vibrating the screen to craft audio also doesn't have any negative effect on imagery through vibration or wobble. As party tricks go, it's a good one.

Perhaps because of the unique audio burden placed on the 55A1, it doesn't carry the onscreen filter it would need to deliver passive 3D from its LG-sourced OLED panel. Of course, even LG has dropped 3D playback from its lineup this year.

Extreme silicon

Tucked inside the 55A1's unique chassis is an up-to-the-minute TV brain. Sony's X1 Extreme processor (also found on the brand's ZD9 and XE93/94 models) is reckoned to deliver as much as 40 per cent more processing power than its predecessor, and it applies that power across both the TV's Android-based smart system and its picture quality engine.

Android thus runs slicker than it does on less powerful TVs – although it's still a bit buggy, and can at times feel clunky and inflexible.

The YouView platform is added to deliver the UK's main catchup TV apps, alongside versions of Netflix and Amazon that support 4K and HDR streams.

With regards to picture processing, the X1 Extreme has a few high-profile attractions up its sleeve. One of its biggest additions over the 'normal' X1 chip is a dual database system for upscaling HD content to the screen's native 4K resolution. One half of this database compares

'Black levels – the aspect of image quality that OLED likes to shout about – are absolutely imperious'

incoming video against a library of picture 'test cases' to identify and reduce noise, while the other calculates how best to add the millions of extra pixels needed to turn a 2K picture into a 4K one.

Another facet of the X1 Extreme chipset is that it's supposedly powerful enough to add Dolby Vision HDR support via a firmware update due later this year. This will join the 55A1's HDR 10 and Hybrid Log Gamma HDR compatibility. Personally, I think this is great news given how wowed I've been elsewhere in this issue by Dolby Vision's impact on Ultra HD Blu-ray picture quality. But I appreciate the notion of another HDR format doesn't exactly enthrall everyone – and A1 buyers could easily gorge on regular HDR 10 content and be bowled over. This TV is seriously impressive.

With the 'great picture, shame about the film' thrills of *Billy Lynn's Long Halftime Walk* on 4K Blu-ray, the Sony's pictures look absolutely beautiful. Black levels – the aspect of image quality that OLED likes to shout about – are imperious. The night sky behind the climactic American Football half-time show, for instance, appears immaculately rich, deep and natural. There's no hint of greyness or clouding problems, thanks to OLED's self-illuminating technology. Black bars present in

3



CinemaScope/2.0:1 content just blend effortlessly with the TV's slim black bezel.

The pixel-level light control offered by OLED also ensures subtle shifts in shade are maintained and dark area details are retained, where they might easily go walkies with an LCD TV.

Actually, black levels and greyscale detailing in dark areas are superb even by OLED standards. Sony's processing deals well with the potential issue OLED screens can have with delivering 'just above black' light levels. This contributes to a consistent and refined

picture that looks equally natural and detailed across every part of the TV's light and colour spectrum.

Triluminos trickery

Colour is another area where the 55A1 excels. OLED's freedom from external backlight light pollution is advantageous here, and the TV also sports an OLED-optimised version of Sony's Triluminos colour processing system. And as with incarnations of Triluminos found on its LCD lineup, this works well at enhancing the sense of dynamism and range in the colour palette, all delivered with a remarkable amount of subtlety and finesse.

This colour prowess is spectacularly visible during the various sequences in *Billy Lynn...* set in American Football stadia, where the gaudiness of some of the lights and fireworks is countered by subtle skin tones and refined control of the hues of the soldiers' uniforms, medals and ribbons. It's very much a premium performance.

A 'Super Bitmap' system, tucked away in the 55A1's processing arsenal, almost completely removes the colour striping issues experienced with some HDR sequences that I've witnessed on a number of rival HDR sets.

4K content naturally makes for fine viewing, yet the experience of sharpness is aided by Sony's skilful way with motion processing, and the OLED technology at hand. For instance, thanks to its high frame rate (the movie plays at 60fps), the *Billy Lynn* 4K Blu-ray offers one of the most consistently detailed, sharp 4K images seen to date, even during camera pans. On the 55A1, the impact is heightened. The set's colour and light finesse joins with superior motion handling so that not so much as a pixel of detail feels lost between disc and screen. In fact, the level of detail is so intense with some sequences, such as one featuring members of a crowd talking directly into the camera, that they almost feel uncomfortably intimate.

HDR images in general have a lovely intensity and purity, buoyed by the TV's contrast – Sony's OLED panel has no trouble juggling peak whites and deep colours with no cross-contamination. However, the picture is slightly duller than that of other OLED TVs I've seen this year; actually quite a bit duller if you select one of the two Cinema picture presets rather than the Standard one. This means it doesn't deliver quite as much punch and dynamism with HDR content as the latest and marginally brighter LG OLED

4



SPECIFICATIONS

3D: No **4K:** Yes, 3,840 x 2,160 **HDR:** Yes, HDR 10; Hybrid Log-Gamma; Dolby Vision (via a future firmware update) **TUNER:** Yes, Freeview HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; RF input; headphone jack; optical audio output; Ethernet port **SOUND (CLAIMED):** 50W total across Acoustic Surface technology and built-in subwoofer **BRIGHTNESS (CLAIMED):** N/A **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,228(w) x 711(h) x 86(d)mm **WEIGHT (OFF STAND):** 25kg **FEATURES:** Built-in Wi-Fi; USB/DLNA multimedia playback; Android TV with HDR/4K Netflix and Amazon; YouView catchup platform; X1 Extreme processing; dual-database upscaling engine; Super Bit mapping colour management; 'stand-free' design; Triluminos colour

PARTNER WITH



SONY UBP-X800: The top-rated disc-spinner in Sony's stable, the £400 UBP-X800 adds SACD and DVD-Audio playback to its headline 4K Blu-ray compatibility. A great option for both movies and music; great build quality, too.

challengers, particularly if you have a fairly bright room to contend with. Before you take this as reason to buy an LG model, though, the 55A1 comes across as more accomplished with regards to noise, sharpness and motion handling. The image feels slicker.

Away from HDR, standard dynamic range Blu-rays appear detailed, colour-rich and inviting. You can, if you want, select a picture preset that applies a gentle but effective HDR 'upscale' to SDR visuals (essentially any of them bar the True Cinema and Expert ones).

An input lag measurement of around 40ms, occasionally slipping as high as 51ms, is hardly disastrous, but certainly higher than competitive videogame players would like to see.

The right stuff

For many home cinema fans, neither the 55A1's less than stellar input lag and somewhat curtailed brightness are likely to come close to deal breakers. There's simply so much more that Sony's bigscreen OLED debutante gets so gloriously, beautifully right. It's a TV that's crying out for a movie marathon and a jumbo box of popcorn.

Perhaps the design might actually put you off. In the flesh, the TV is a catwalk queen, with the ruggedly-built rear stand/speaker unit ensuring a sturdy installation. But the lack of feet means it's not suited to use with a soundbar anywhere in front of it, and the lean-back design suggests a low-slung AV stand is the way to go, which could have a knock-on effect on where a dedicated centre speaker is placed – although an impressive viewing angle means it's not a calamity if you have to install it higher up. Wall-mounting, with the stand folding flat against the 55A1's rear, will certainly make integration with the rest of your setup easier. Bear all this in mind if you're thinking of breaking out the credit card ■

3. HDR 10 and HLG support will be joined by Dolby Vision

4. The back section of Sony's hefty A-frame stand wears a speaker-style grille

HCC VERDICT

★★★★★

Sony KD-55A1

→ £3,500 → www.sony.co.uk

WE SAY: Sony's debut bigscreen OLED is one of the most innovative, beautiful and outstanding TVs we've ever tested. But does its form factor suit your AV lifestyle?

Back, and better?



Richard Stevenson joins Chris Pratt and Jennifer Lawrence in an outer-space adventure courtesy of Samsung's second-generation UHD disc spinner

SAMSUNG'S FIRST UHD Blu-ray disc spinner, the UBD-K8500, was something of an enigma. Being first out of the blocks ensured it had fans, as did a price point lower than its soon-to-be-released Panasonic DMP-UB900 rival, but it wasn't perhaps the festival of UHD goodness and premium build many would have liked. Enter the UBD-M9500 follow-up player, tweaked and fettled to address the original's weaker areas.

At a quick glance you won't tell the difference, though. The same slim, lightweight and curved front chassis remains, as does rear-panel connectivity that proffers two HDMI, Ethernet and an optical digital audio output, but no analogue options – not even stereo phono. Wi-Fi and Bluetooth connectivity is catered for, the latter offering the ability to connect to wireless Bluetooth headphones or suitable soundbars.

A USB input is, oddly, side-mounted on the deck's right-hand panel.

On the inside there has been some subtle refinement of the core picture system, including ironing out a bug concerning chroma sub-sampling.

Samsung's new kid has the welcome addition of a front-panel display, albeit a short, scrolling text affair concealed along the player's front sloped edge that springs into life once commands have been given.

The original remote has been ousted in favour of a somewhat sleeker design ported over from Samsung's top-spec TVs and soundbars. It's not backlit but is much more intuitive for blind control in a darkened room. That

said, the traditional four colour keys have been moved to soft keys on an onscreen pop-up.

The lineup of apps within the Samsung Smart Hub includes Netflix, Amazon (both with HDR playback) and Google Play Movies, plus BBC iPlayer and All4 catchup, with a host of other apps downloadable from Samsung's portal. It's not a mirror image of the current smart TV platform, though – ITVHub and Demand 5 are missing.

There are also some fairly whacky new features. Ever wanted to stream movies from your Blu-ray player to your smartphone? No, neither have we, but if you get the urge for smallscreen movie entertainment, the M9500 makes it possible. Or, if you have Samsung's Shoot Gear 360 camera, you can share the content to a mobile or PC, move the data via USB to the UBD-M9500, and navigate around the 360 degrees of content onscreen.

Picture tweaking menus are fairly limited in comparison to some other decks. Colour sampling can be changed under HDMI settings (4:2:0, 4:2:2, 4:4:4), but bit-depth is automatic, downconverting to 8-bit for those with older 4K TVs. There's a basic gamma level tool for HDR content scaled to SDR for even older 4K TVs. Note that, like the UBD-K8500, HDR output cannot be overridden if the Samsung detects a compatible display.

One small elephant in the room, or rather not in the room, is Dolby Vision (DV). While LG and Oppo have managed to incorporate Dolby's latest visual tech, the M9500 (and Samsung 2017 TVs) does not have it. Given the lack of Dolby Vision encoded content available that

AV INFO

PRODUCT:
Ultra HD Blu-ray
player

POSITION:
Samsung's 2017
model, replacing the
UBD-K8500

PEERS:
LG UP970;
Sony UHP-H1;
Panasonic
DMP-UB300



certainly isn't an issue right now and DV discs sport HDR 10 versions, too. But it's still a buying consideration.

An even bigger elephant in the room is 3D Blu-ray; this disc-spinner doesn't play the format. A logical choice,

'Plop in a disc and the Samsung powers into life with incredible detail and 4K's unique image depth'

perhaps, for a brand that no longer makes 3D TVs, but something that makes it a no-go for anyone looking to upgrade their 3D-capable Full HD player for a new 4K job.

And I ride and I ride...

There's no disputing the sheer bandwidth of information the UBD-M9500 puts out with 4K HDR content. Plop in a disc and the Samsung powers into life with incredible detail and that unique sense of image depth the format offers. The rich set design and amazing lighting effects in *Passengers* (Ultra HD Blu-ray) are jaw-dropping. Viewed on a Samsung KS9000 TV, the textural nuances of the ship's materials are on full display, and this metal, glass and plastic detail is what lends the scene incredible reality – even considering all the CGI in the mix. And if there is a redeeming feature of *Passengers* (that little known genre of tedious moral dilemma set in space) it is Jennifer

SPECIFICATIONS

ULTRA HD: Yes **HDR:** Yes. HDR 10 **UPSCALING:** Yes. To 2160p **MULTIREGION:** No. Region B BD/R2 DVD (Ultra HD discs are region-free) **HDMI:** Yes. 2 x HDMI outputs **MULTICHANNEL ANALOGUE:** No. **DIGITAL AUDIO:** Yes. Optical digital audio output **ETHERNET:** Yes **BUILT IN WI-FI:** Yes (dual-band) **SACD/DVD-A:** No/No **DIMENSIONS:** 406(w) x 45(h) x 225.6(d)mm **WEIGHT:** 1.9kg

FEATURES: USB input (side-mounted); Bluetooth transmission/receive; 360-degree view; N Screen (Blu-ray to mobile); Samsung Smart Hub (includes Amazon, Netflix, BBC iPlayer, 4OD); Dolby/DTS decoding (Atmos/DTS:X bitstream output); HDR-SDR downconversion with gamma adjust; selectable chroma sampling

PARTNER WITH



PASSENGERS: Not the greatest sci-fi flick ever made, but the 4K presentation on Sony Pictures' BD (buoyed by its 6.5K digital origins) is a real eye-opener. Choose to import from the US and you can get a 4K/3D/Full HD triple-pack.

Lawrence and the way her not-unattractive features are delivered in 4K from the UBD-M9500. Her skin tones and its organic appearance, strands of hair and sparky eyes, are stunning. I think I'm in love. With the technology, obviously.

Of course, some fettling of display picture settings may be required to achieve the perfect HDR balance without searing your eyeballs. The trouble then being, pictures from other sources may not respond well to these settings if your TV has global picture control across all inputs. Some level of control on the player (brightness, hue, etc) would have been better.

An impressive trick of the M9500 is its motion handling of 4K HDR content. Huge, sweeping pans of the ship in *Passengers* are smooth as silk with zero judder and no observable motion blur. Scenes looking across the ship's concourse are super-slick as the camera scrolls across the huge space, as is the first-perspective spinning as seen by our heroes during their tethered space walk.

Away from 4K visuals, the player naturally handles Dolby Atmos and DTS:X bitstreams, and upscales regular Blu-rays with efficiency and no obvious short-comings.

The Samsung is not without a couple of frustrations when it comes to usability. During my audition, it popped up a firmware notification mid-movie, and rebooted the disc when it had been on pause for more than 15 minutes. Thankfully, while general build quality doesn't imbue the same level of confidence as some other decks, operational noise isn't a concern.

A last issue is the £500 asking price, which looks a touch high compared to challengers such as LG's Dolby Vision-enabled UP970 at £370, Panasonic's DMP-UB300 (£200) and Sony's universal UBP-X800 (£400). So, while this second-gen 4K BD player delivers the visual goods with aplomb, minor niggles, no 3D and a steep ticket preclude it from greatness ■

1. Samsung has added a central display to the player's front-panel top edge

HCC VERDICT



Samsung UBD-M9500

→ £500 → www.samsung.co.uk

WE SAY: 4K disc playback and multimedia smarts are the strengths here, although some will expect more in the way of features and format support considering the price tag.

Ed Selley discovers what happens when a pro audio brand makes a lifestyle speaker



5.1 slim and sonic

A key advantage of satellite speakers is their ability to be wall-mounted. With larger, full-bandwidth models, mounting up and out of the way becomes a much tougher business – a reason why they remain a rarity. Which is a shame, as even if you don't want a full surround set, they can be useful as rear speakers.

ATC is going some way to filling that gap in the market. What you see here is a system made from the smallest members of its brand-new HTS series. Appearances can be a little deceptive, though. The HTS speakers are actually close relatives of the SCM models that have been on sale for a few years. Each HTS takes the driver arrangement of the corresponding SCM offering and places it in a cabinet that's been adapted for use on a wall. The HTS7, therefore, is the thin-profile version of the SCM7 standmount that we previously played with in *HCC* #267.

This means you get a 1in soft dome tweeter and 5in mid/bass driver, both of which are built in-house at ATC's UK HQ. They are placed in a cabinet that is taller and wider than their conventional cousins but correspondingly shallower. As a result, the internal volume remains the same at seven litres.

ATC has a reputation for practicality and speakers that will work in demanding environments come what may, and the HTS models are no exception. The cabinet is supported by not one but two keyhole mounts to more evenly spread its 8kg weight. The rear surface has soft foam contact pads at the corners to ensure

AV INFO

PRODUCT:
On-wall 5.1
speaker system

POSITION:
Slim enclosure
siblings to ATC's
SCM range

PEERS:
DALI Opticon LCR;
Monitor Audio
Soundframe



that the cabinet will sit flush on the wall and not rattle once it does.

There are some other nice touches, too. The terminal panel (which is for single wiring only) is up near the top of the cabinet. ATC then runs a channel down from this to the base of the speaker's rear, so that any cabling won't interfere with that flush fit.

A full-size template is supplied for drilling your holes and ATC has foregone the usual steel basket grilles for more unobtrusive room placement. The only slight downside is that the speaker's black drivers did tend to show through the white cloths on my review package. A satin black finish is also available.

There's no direct equivalent of the CIC centre channel (the go-to model for the SCM lineup) in the HTS range. Instead, ATC has rotated the driver complement of the HTS7 through ninety degrees to create its new HTS7C. While this means you are technically a driver down over the standard model, you gain the advantage of having the same drivers arranged in the same way in all speakers, which should improve transition throughout the soundstage.

This on-wall series, for obvious reasons, also has no dedicated subwoofer, so this 5.1 setup has been supplied with a white-finished version of the C1 Sub that I've used previously. This is no bad thing though – the C1 is a strong performer with a useful panel-driven setup.

Like their conventional box relatives, the HTS speakers are sealed and sound their best with plenty of good-quality power behind them. They aren't particularly sensitive (rated at 84dB), but have a nominal 8ohm impedance (which ATC says doesn't dip significantly) that should help the job of your AV receiver.

One interesting side effect of their design is that as they are meant to be placed against a wall, the HTS7 has better in-room extension than their standmount relatives, as they are voiced to use the wall for reinforcement.

As the price suggests, these are beautifully made and solid-feeling devices that should last for years.

The truth is... on your wall

These HTS speakers are very much the Dana Scully of the AV speaker world, seeking to find logic and order in the most chaotic of situations. The street fight on Jedha >

1. Okay, the subwoofer won't mount on-wall but the rest will...



2

in...*Rogue One* (Blu-ray) retains its energy and ferocity, but these speakers place effects with a superior sense of accuracy and space, making the slightly relentless nature of the production more coherent. The images on screen become easier to follow; the experience more rewarding. Detail retrieval is excellent, too. The dense mix of shouts, blaster fire and impacts are unravelled into an immersive soundfield.

The final rain-soaked Grand Prix of *Rush* (Blu-ray) is no less compelling. The ATCs handle the very layered nature of this soundmix extremely well, where the roar of the cars sits on top of the score, which is then itself on top of the snippets of commentary. If that makes it sound like these favour a cool, calm and collected performance to the detriment of excitement, think again. It sounds entirely real, and – at times – joyfully visceral.

The C1 subwoofer, unchanged from before, delivers the same agile but powerful presentation. It melds well with the rest of the speaker array, and its sealed design means finding a place for it is fairly straightforward. It is a little pricey compared to some similar models, but it performs admirably. I would appreciate a bit more slam, though.

Even and consistent

With the rest of the package using five almost identical speakers, the result is a soundfield that is even and consistent when FX and score are being flung about. Notably, as the speakers are placed on the wall with no toe-in, and even when they are installed comparatively wide apart, there doesn't seem to be any negative hit on imaging. The SCM7 review package has long been returned to ATC, so it is hard to make a completely accurate comparison between them and their wall-mounted kin, but the same points keep cropping up in my notes. At pretty much any level you choose to play them, these are refined but involving and exciting.

An assured sense of space and control means that this 5.1 set works well with more considered soundmixes that aren't simply a loosely strung together bunch of explosions. When Jake Gyllenhaal enters the house where the shootings have occurred in *Nightcrawler* (Blu-ray), the tiny sounds of the near-deserted property and the

SPECIFICATIONS

HTS7

DRIVE UNITS: 1 x 5in doped mid/bass cone; 1 x 1in fabric dome tweeter **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 60Hz-22kHz **SENSITIVITY (CLAIMED):** 84dB **POWER HANDLING (CLAIMED):** 300W **DIMENSIONS:** 390(h) x 245(w) x 137(d) mm **WEIGHT:** 8kg

HTS7C

DRIVE UNITS: 1 x 5in doped mid/bass cone; 1 x 1in fabric dome tweeter **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 60Hz-22kHz **SENSITIVITY (CLAIMED):** 84dB **POWER HANDLING (CLAIMED):** 300W **DIMENSIONS:** 245(h) x 390(w) x 137(d)mm **WEIGHT:** 8kg

C1 subwoofer

DRIVE UNITS: 1 x 12in doped paper woofer **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 18Hz-250Hz **ONBOARD POWER (CLAIMED):** 200W **REMOTE CONTROL:** Yes **DIMENSIONS:** 410(h) x 360(w) x 360(d)mm **WEIGHT:** 24kg **CONNECTIONS:** Stereo phono input/LFE input; speaker level inputs

PARTNER WITH



YAMAHA RX-A3060: This 2016 AVENTAGE AVR isn't being replaced 'til the Autumn, and offers a thrilling mix of power, dynamism, control and musicality – plus plenty of DSP fun and MusicCast integration. Available for around £1,700.

low-level buzz of the city outside ooze into my listening room with clarity and precision. Again, it's a performance that's easy to lose yourself in, although when you drop to a very low, late-night listening level, some of this fine detail becomes harder to discern.

Where the HTS7 scores over a more conventional satellite speaker, and even over the SCM7, is that thanks to that boost from wall-mounting, stereo performance – without the aid of the C1 subwoofer – is fabulous. If you need a speaker that will perform both music and television/movie roles, the HTS7 has to be heard. And that's before you consider that it is taking up very little space.

Multichannel music also convinces. The audition period coincided with the BBC's Glastonbury coverage, and this package proved unfailingly impressive at locking the musicians onto the stage and capturing the sound of the crowd, not simply as a vast single noise but as a body of people.

Compromise? Not me

The HTS7 and HTS7C are an impressive achievement. For what is only a slightly higher price than the SCM7 5.1 package, the UK brand has assembled a quintet of speakers that have the same unburstable sense of capability and excitement – and at the same time enable you to reclaim some precious floorspace. If you'd been considering investing in on-wall speakers as an unwanted compromise, these will definitely cheer you up ■

HCC VERDICT



ATC HTS7 5.1

→ £3,500 → atcloudspeakers.co.uk

WE SAY: An extremely happy marriage of capability and convenience, ATC's HTS speakers might be just what your cinema room is crying out for.

2. The HTS7 offers twin keyhole fixing points and a cable run down its rear cabinet



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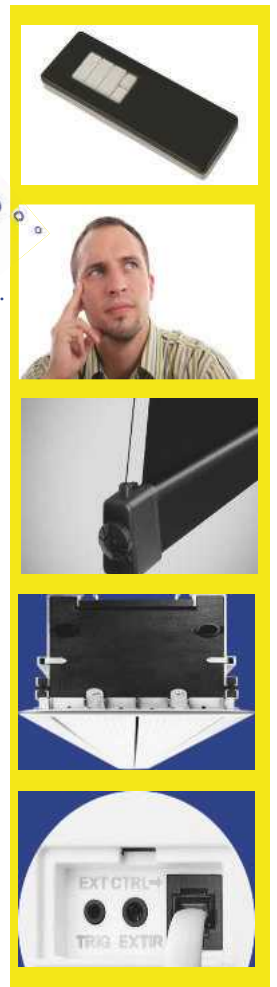
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John Wick is back
all guns blazing
— and on 4K
Blu-ray, p105

1

John Archer wonders if the UE55MU9000 finds a price/performance sweet spot in Samsung's TV range

Continuing on a curved crusade

There's much to like about Samsung's new QLED TV technology – an ultra wide colour range, extreme brightness and uncanny ability to filter out ambient light are obvious positives – yet most people just won't be in a position to invest in a QLED set. They're high-performance TVs, priced accordingly. This is where Samsung's MU9000 series comes in.

This range appears – on paper, anyway – to deliver more or less the same specification as last year's KS9000 series, but at a greatly reduced price. It therefore seems the 55in, £1,750 55MU9000 could be one of this year's biggest high-quality bargains (there are 65in and 49in variants, too).

Anyone who's gawped at Samsung's top-tier Q9F before moving down the pecking order to here will soon clock where some of the cash-saving comes from. While the ultra-slim black and silver frame wrapped around the 55MU9000's curved screen sets a promisingly high-end tone, and the metallic, roughly crescent-shaped desktop stand creates an airy, floaty look, it's not out-and-out gorgeous. Nor is it particularly hefty, courtesy of that desktop stand's general lightweight build.

The curved panel can cause image foreshortening if watched from an angle, and make onscreen reflections (from, say, a table lamp) distort across more of the screen. It does, though, enhance the TV's aesthetic appeal to a degree, and can make your viewing experience feel a little more immersive if you're sat in the TV's fairly small visual 'sweet spot'. The flat MU8000 series is where those unsure about the curve should look.

Living on the edge

A good way to report on the TV's screen technology is to combine it with an assessment of its performance. For instance, the appearance during some content of backlight clouding and jetting from the 55MU9000's top and bottom edges alerts you right away to its use of an edge-mounted LED illumination system.

This clouding reveals how the TV lights its pictures, but it's not exactly a desirable picture trait. It draws your eye away from what you're supposed to be watching. I found it a distraction during the big night-time scrap between the feuding superheroes in *Batman v Superman*

(Ultra HD Blu-ray). The clouding during HDR playback can also hide shadow detailing in areas where it appears, as well as slightly muting colour tones.

To limit these backlight issues, I knocked the TV's Local Dimming and Contrast Enhancer settings to Low. However, this causes skies and walls behind Bats and Supes to lose some of their detail, and reduces brightness enough to impact the TV's sense of dynamism.

Buyers will probably find they need to set up one picture preset for daytime viewing – when the backlight clouding is less obvious and you need the extra brightness – and one for dark-room viewing where minimising clouding is your main focus. This doesn't alter the fact that in an ideal world you'd be able to enjoy a punchier image in dark-room conditions without having to worry so much.

And if you have a large family or awkwardly shaped room, you should note that the 55MU9000's black level performance drops off fast if you watch the screen from angles any greater than 30 degrees off axis.

Lighting the way

This Samsung and I haven't got off on the right foot, but overall it's far from a poor TV. It has brightness and colour impact in spades.

A measured peak luminance of around 700 nits falls short of the near 2,000 nits offered by Samsung's flagship QLED, but it's still a healthy figure, and ahead of much of the competition at this price. Brightness drops to below 600 nits if you turn down the local dimming from 'high' to hide those aforementioned backlight clouding issues, but you'll only need to do this in a dark room, and just under 600 nits is still enough to give you an enjoyable HDR effect.

The TV's brightness is backed up by a wide colour range delivered with plenty of vivid saturations and lots of tonal subtlety. With *Batman v Superman*, this equates to

AV INFO

PRODUCT:
Upper mid-range 4K HDR TV with edge LED lighting and local dimming

POSITION:
Immediately below Samsung's new QLED models

PEERS:
LG 55SJ850;
Sony KD-55XE9305

1. Instead of QLED, this set claims a 'Dynamic Crystal Colour' panel

2. A regular zapper is joined by Samsung's voice-capable One Remote Control





SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR 10; HDR 10+; HLG **TUNER:** Yes. Freeview HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; RF input; Ethernet port; optical audio output **SOUND (CLAIMED):** 40W (2.1-channel) **BRIGHTNESS (CLAIMED):** 1,000 nits **CONTRAST RATIO (CLAIMED):** 'Mega' **DIMENSIONS (OFF STAND):** 1,226(w) x 714.4(h) x 58.2(d)mm **WEIGHT (OFF STAND):** 17.9kg

FEATURES: Built-in Wi-Fi; Bluetooth audio; USB/DLNA multimedia playback; HDR+ SDR upgrading; curved screen/Slim Edge design; Eden 2.0 smart system; voice control system; edge LED lighting with Precision Black local dimming; screen mirroring; One Connect box

PARTNER WITH



SAMSUNG HW-MS6500: This single-enclosure soundbar ditches the sub in favour of a nine-driver three-channel array bolstered by Distortion Cancelling DSP. £600, and designed to be a style match for curved TVs. See p58 for more.

3

plenty of minute variations in the Man of Steel's costume. Colour vibrancy doesn't give way to unsubtle shading. Blues, reds and greens retain their natural feel even in quite dark scenes.

The 55MU9000 doesn't have the brightness or colour range to match the stellar colour volumes Samsung's QLED TVs can manage. Nor is it immune to the (very) occasional appearance of quite noticeable colour striping in some areas of exceptionally subtle blends, such as the white skies above Leonardo DiCaprio during the fade-to-black at the end of *The Revenant*'s opening 'memory montage' (Ultra HD Blu-ray).

'From detailed armour in *The Great Wall* or flora in *Planet Earth II*, sharpness with native 4K material is appreciable'

For its money, though, and for the vast majority of the time, this Samsung's colours are exemplary. And this remains true regardless of whether you're watching HDR or standard dynamic range content. I can only judge this based on the industry standard HDR 10 or HLG HDR formats; Dolby Vision is not supported.

You can watch SDR material – most of your Blu-ray library, for example – in native form or using Samsung's HDR+ emulation system. Purists will no doubt stick with the original format, but I'd argue that HDR+ is worth a try. It can cause a few noticeable backlighting blooms and occasionally goes too far in its search for peaky highlights, but it's better than most, if not all, of the rival HDR engines I've so far played with.

Sharpness with native 4K material is appreciable. The textured, detailed armour of the soldiers in the 4K Blu-ray of *The Great Wall* comes through with immaculate clarity, as does the detailed flora and fauna of the 4K disc of *Planet Earth II*. Other upscaled sources fare well; HD Blu-rays enjoy a very clear detail enhancement after going through Samsung's processors, yet this is added while simultaneously suppressing source noise and keeping a lid on upscaling issues such as haloing around

object edges, or thickened line details. Just steer clear of low-bitrate SD broadcasts if you can.

When there's motion or a camera pan in the image, clarity retention is aided by setting the TV's motion processing to its Custom mode, and assigning values of around three each to judder and blur.

Samsung has been a smart TV pioneer for years, and this model still waves the flag. Its latest 'Eden 2.0' smart engine carries a large number of apps and streaming services, including 4K/HDR versions of Netflix and Amazon, as well as catchup services for BBC, ITV, Channel 4 and Channel 5. Navigation to your favourite sources is made easy by a responsive, compact home menu comprising two layers of icons, along with an efficient voice control system activated via the secondary 'smart' remote. Wi-Fi, Bluetooth audio, USB and Ethernet are all content sharing options – the latter two found on Samsung's typical external One Connect box, which also houses a quartet of HDMI inputs, RF input, etc.

The 55MU9000 doesn't offer an integrated soundbar, or direct forward-firing speakers. Perhaps thanks to the extra bodywork opened up by its curved design, though, it delivers a slightly above average sound performance. *Batman v Superman*'s dense mix benefits from a credible mid-range, and proffers decent amounts of treble detail without brashness. The set doesn't get close to mining the huge bass lows that litter the soundtrack, though.

Crowd-pleasing, but...

This is both a good TV and a slight disappointment at the same time. It has all the elements needed to stand out from the mid-range crowd if you want potent HDR for under £2,000. Yet I remain unconvinced that combining edge-lighting with the need for localised high brightness is a premium solution for premium content ■

HCC VERDICT



Samsung UE55MU9000

→ £1,750 → www.samsung.co.uk

WE SAY: Samsung's pursuit of HDR-friendly brightness mostly impresses even without QLED technology to help. But fans of dark room-viewing may struggle to ignore a few backlight woes.

3. The MU9000 line also includes 49in and 65in models

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Soundbar selector

Step up from budget soundbars and there's still a lot of choice, plus plenty of innovation – **Danny Phillips** puts a mid-range quartet through their paces

LG SJ8

Slender model loaded with multimedia features

MONITOR AUDIO ASB-10

Can the speaker giant out-perform its rivals?

PHILIPS FIDELIO B1

Compact option with 5.1-channel tricks

SAMSUNG HW-MS6500

Curved bar that thinks a subwoofer is unnecessary >

LG SJ8

A rung down from the Atmos-capable SJ9, you'll find this HDMI-equipped slim-line soundbar



SOUNDBARS WERE BORN to keep clutter to a minimum but, with the SJ8, LG has taken that idea to the extreme. This wafer-thin soundbar's 38mm height lets it slip into your system practically unseen.

LG has done a fine job with the soundbar's aesthetic. The thin steel grille is sandwiched between brushed black panels that give it a sleek, modern feel. There's a slight budget whiff about the plasticky texture and light bodywork but it's not a deal-breaker.

A big front-mounted display keeps you abreast of the SJ8's workings. Buttons are hidden away on the back.

In terms of socketry you're hardly spoilt for choice with a single HDMI input and ARC output, but at least they're able to pass through full-fat 4K/HDR signals from a UHD Blu-ray deck. If you prefer going down the single-cable route, use the optical input.

Naturally, a soundbar this slim needs a bit of help in the bass department, so you'll find a wireless subwoofer in the box. Like the 'bar, it's remarkably compact and fetchingly styled in a grey/black colour scheme, although the exposed MDF and vinyl finish don't impress.

Four elongated 26mm x 95mm mid/bass drivers compensate for the 'bar's reduced cabinet volume. They're joined by two 0.75in dome tweeters. Unlike the step-up SJ9 (see HCC #274) there's no Dolby Atmos support.

In the engine room, an amp sends 2 x 65W to the soundbar; the sub is rated at 170W.

The LG steals a march on Monitor Audio and Philips in this roundup with DLNA music streaming through its built-in Wi-Fi

connection. There's also support for hi-res music; everything else can be up-converted to 192kHz/24-bit using LG's processing.

This well-connected 'bar also supports Spotify and Chromecast, as well as Bluetooth and LG's MusicFlow multiroom system. Install the companion app for the latter and your smartphone becomes the soundbar's remote. Multiple LG speakers can then be linked up in a multiroom system if you fancy filling your house with music. The app is attractive and intuitive, but I had some major problems streaming from my NAS drive – it wouldn't scroll further than D in my list of album titles. Unlucky for fans of Enya's self-titled debut...

Let me entertain you

With movies, the SJ8 is a natural entertainer. Its forward, boisterous presentation makes action scenes exciting and engaging. Subtle it ain't, particularly when compared with the velvety Monitor Audio ASB-10. Smoothness is jettisoned in favour of sheer energy.

Soundstage size belies the 'bar's slim dimensions. The jaw-dropping destruction of Jedha in *...Rogue One* (Blu-ray) feels suitably apocalyptic thanks to the gigantic swell emitted by the sub, which melds nicely with the 'bar's fiery roar.

The subwoofer takes most of the credit here but the two components form a cohesive partnership, once you've trimmed the woofer from its too-high default setting.

Doctor Strange on Blu-ray reveals excellent dialogue reproduction, keeping Benedict Cumberbatch's decent American accent nice

and clear through the busiest action scenes. The bar's physical width and sound-spreading tech make the sprawling city battles feel expansive, with purposefully placed effects and smooth panning.

It's not all sweetness and light though – the SJ8 isn't particularly adept at teasing out the finer details of a scene, lacking the refinement of the Samsung HW-MS6500 and Monitor Audio 'bar. Treble has a slightly hard edge that can become grating at loud volumes. And on that note, the SJ8 doesn't give you a lot of headroom volume wise – I pushed it to maximum and felt like it should go higher.

It's a shame because at times this unit impresses, and is well-featured. Yet it lacks the overall quality to topple the competition.

SPECIFICATIONS

DRIVE UNITS: 4 x Exelway 26mm x 95mm mid/bass drivers; 2 x 0.75in dome tweeters

AMPLIFICATION (CLAIMED): 300W total

CONNECTIONS: HDMI 2.0 input and output (ARC); optical digital audio input; Ethernet; USB (service) **DOLBY TRUEHD/DTS-HD MA:** No/No **SEPARATE SUB:** Yes **REMOTE CONTROL:** Yes **DIMENSIONS:** 1,220(w) x 38(h) x 105(d)mm **WEIGHT:** 2.7kg (soundbar); 4.3kg (sub)

FEATURES: Wi-Fi; DLNA media streaming and MusicFlow multiroom; Bluetooth; Chromecast built-in; Spotify Connect; hi-res audio playback; Auto Sound Engine; presets including Bass Blast and Cinema

Monitor Audio ASB-10

The British brand re-enters the soundbar arena, armed with its usual C-CAM driver tech



THE ASB-10 IS the follow-up to Monitor Audio's magnificent ASB-2, the first of a new breed of premium soundbars that combined classy design with powerful performance.

This is a simpler and more affordable beast, stripped of its predecessor's AirPlay streaming and HDMI ports in favour of Bluetooth, optical, coaxial and 3.5mm analogue inputs.

The £400 soundbar can be happily used on its own – Monitor Audio says it delivers 'ample levels of bass' – but for added oomph you can add the purpose-built WS-10 subwoofer (not pictured) for an extra £300.

'Weighty, solid and seamlessly built, this is everything I expect from Monitor Audio speakers'

Unlike the big, bulky ASB-2, the ASB-10 is a living-room friendly 'bar that hogs less TV-stand space. That said, at 99mm high there's a chance it could block your TV's remote sensor. Measuring just under a metre wide, it was well-suited to my 55in set but would be dwarfed by anything bigger.

It's beautifully styled in a moulded polymer cabinet with a black cloth grille and brushed aluminium end caps. Weighty, solid and seamlessly built, this is everything I've come to expect from Monitor Audio speakers.

Tiny buttons on top provide control and a single pill-shaped LED conveys its status. Simple. An LFE output on the back lets you hook up a subwoofer of your choice, but naturally MA wants you to buy the WS-10. This bass box makes up for in versatility what

it lacks in style – with its 2.4GHz wireless connection you can place it anywhere, either vertically or horizontally on rubber feet. It's equipped with an 8in C-CAM driver and a 120W amp. Movie, Music and Impact modes tweak the EQ to suit your taste.

The two-channel soundbar is kitted out with four 3in C-CAM mid/bass drivers, a pair of 25mm C-CAM gold dome tweeters and two passive bass radiators. Power comes from four discrete Class D amplifiers (100W total) with DSPs providing precision filters and processing for each driver. Alongside Dolby Digital decoding is Dolby Virtual Speaker, which aims to create a '3D soundscape'.

The remote is a nice size but its spongy buttons sometimes need a couple of presses to register.

Ready to rumble?

With the WS-10 in play, the ASB-10 has no trouble generating a massive soundstage. The scenery-bending fight scenes in *Doctor Strange* are backed by a deep rumble as buildings shift and fold.

The sub easily conveys scale, but doesn't distract or give away its position. It's well integrated, punching hard and tight as the characters wreak havoc in Hong Kong.

Further up the frequency range, the ASB-10 bears all the hallmarks of a Monitor Audio speaker. High-frequency reproduction is exquisite, digging out tricky vocal inflections and subtle textures with ease. It's a silky, undemanding listen – explosions and smashing glass have harsh edges smoothed off. A little more attack wouldn't go amiss, but at least it doesn't give your eardrums a bashing like some budget soundbars might.

SPECIFICATIONS

DRIVE UNITS: 4 x 3in C-CAM mid/bass drivers; 2 x 1in C-CAM gold dome tweeters; 2 x passive bass radiators **AMPLIFICATION (CLAIMED):** 100W (120W for WS-10 sub) **CONNECTIONS:** Optical digital audio input; coaxial digital audio input; 3.5mm analogue input; LFE output; USB port (update) **DOLBY TRUEHD/DTS-HD MA:** No/No **SEPARATE SUB:** Optional **REMOTE CONTROL:** Yes **DIMENSIONS:** 900(w) x 99(h) x 94(d)mm **WEIGHT:** 5kg

FEATURES: aptX Bluetooth; Dolby Digital, Pro-Logic II & Dolby Virtual Speaker; calibrated DSP for each driver

Dialogue is clear and beefed up nicely by the subwoofer during Strange's confrontation with the thunder-voiced Dormammu. The soundstage is broad but not 'surround sound', despite the efforts of Dolby Virtual Speaker.

All good stuff. But if you're planning to save yourself £300 and side-step the subwoofer, you might want to reconsider. On its own, the ASB-10 lacks the low-frequency muscle that movies thrive on, reducing impact and cohesion.

To be fair, the C-CAM drivers do muster a reasonable amount of bass, which is fine for TV shows and music, but movie fans seeking blood and thunder will be disappointed.

All of which makes the subwoofer an essential add-on. Trouble is, that takes the price to £700, where you'll find better-sounding models like the sub-free Samsung HW-MS6500, which throws in Wi-Fi and multiroom to boot...

Philips Fidelio B1

This nano soundbar/sub duo can handle a 5.1 signal and is designed to fit in anywhere



DESCRIBED AS A 'nano cinema speaker', the B1 wants to deliver a big sound from a small box. It does so by enlisting the help of a wireless subwoofer and something called microbeam technology.

Basically it works like this: inside the B1 are four racetrack drivers – two on the sides and two in the middle – arranged in a cross-firing configuration. Meanwhile, two top-mounted soft dome tweeters fire high frequencies through a wave guide with eighteen holes of increasing diameters to create a 'virtual array' of tweeters.

The result, apparently, is a 180-degree soundstage with a wide sweet spot. And because the drivers are divided up into fronts, surrounds and a centre, you get 5.1-channel sound, too, made possible by six 20W amps and a Dolby Digital decoder.

The remarkable thing is that all this tech is packed into one of the smallest, cutest soundbars I've clapped eyes on. Narrower than most Blu-ray decks and just 115mm deep, it commands very little space on a TV shelf and would make an ideal audio solution for a bedroom.

Build quality is gorgeous, with an aluminium grille that curves around the sides, black cloth panels and robust silver buttons on top. A large LED display on the front shows the selected input clearly, which can be dimmed if it gets distracting.

The B1 comes with a versatile 200W wireless subwoofer designed for vertical or horizontal use to suit your room layout.

It's well-built and finished in matt black, while on the inside it features a racetrack driver design tuned via dual bass ports.

Connections include an HDMI v1.4 input and output, which means – annoyingly – that UHD Blu-ray passthrough is off the menu. Optical input, a 3.5mm minijack and USB port complete the lineup – the latter allowing you to play MP3, WMA and AAC from thumbdrives. A lack of Wi-Fi means built-in Bluetooth (with aptX support) is your only wireless streaming option.

Sound modes include Virtual Surround (Movie), Music, Voice and Night. Dedicated bass, treble and audio sync adjustments on the terrific remote help you fine-tune further.

Bouncing around

After blasting a selection of movies, I was pleasantly surprised by the B1's loud, expansive sound. The microbeam tech really works, bouncing waves off the walls to create an immersive soundstage. There's a palpable sense of height, and although it can't be described as surround sound the field is fairly wide – remarkable given the B1's dimensions.

The beauty is that its tonality doesn't alter much as you change position, which means you don't have to stay in one place to get the very best performance.

Effects are zapped into the room with plenty of energy and dialogue is consistently audible. There isn't an abundance of fine detail, but the crisp treble gives soundtracks an open feel.

SPECIFICATIONS

DRIVE UNITS: 6 x racetrack drivers

AMPLIFICATION (CLAIMED): 320W

CONNECTIONS: HDMI 1.4 input and output (ARC); optical digital audio input; 3.5mm analogue input; USB **DOLBY TRUEHD/DTS-HD MA:** No/No **SEPARATE SUB:** Yes **REMOTE CONTROL:** Yes **DIMENSIONS:** 408(w) x 56(h) x 115(d)mm **WEIGHT:** 7.56kg

FEATURES: Microbeam technology; Dolby Digital/DTS decoding; treble/bass control; audio sync; Auto Volume Leveller; Virtual Surround Sound; aptX Bluetooth; Virtual Surround (Movie), Music, Voice and Night modes; 5.1-channel output

But sadly there are problems with the B1's sonics. It has a hard edge that can be quite unpleasant during boisterous scenes with lots of loud, high-pitched effects. Turning up the volume exacerbates the problem.

I also found the sub to be boomy and overpowering, no matter how much I tweaked. Sub and soundbar never felt totally unified, which kept pulling me out of the movie.

These problems affect music playback too. Vocals have a nasal quality and basslines sound muddy. There isn't enough punch or rhythmic flair to get the head nodding.

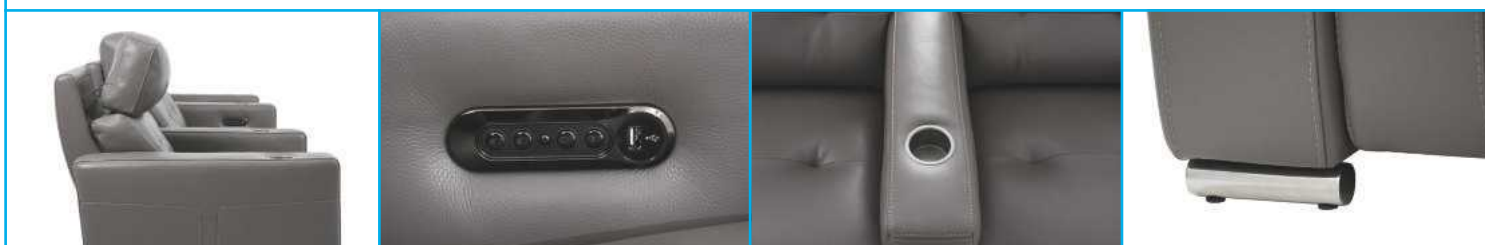
These issues (and legacy HDMI hookup) overshadow a well-built and innovative soundbar. The microbeam tech works and its compact size is ideal for use in tight spaces. ➤



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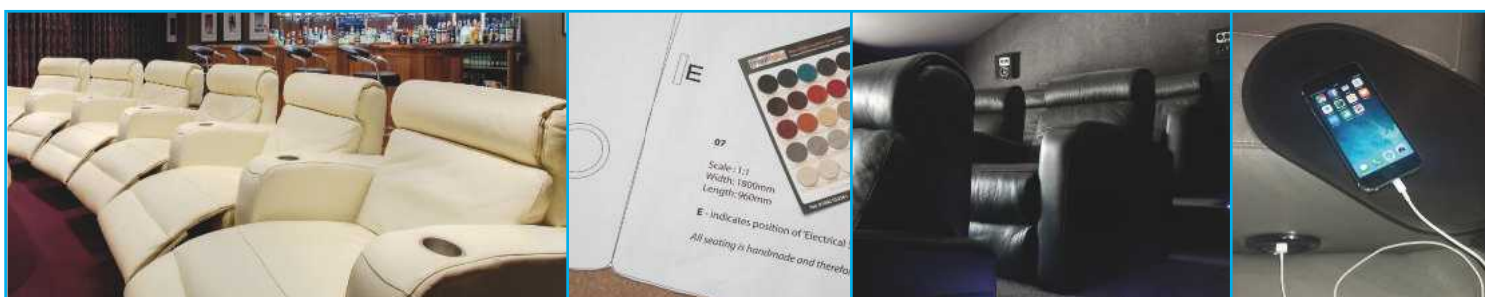


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Samsung HW-MS6500

Like the HW-MS650, only curved, this soundbar's processing power reaps rewards



TO CURVE OR not to curve? That was the question on the lips of TV buyers a few years back when a bunch of manufacturers decided that curved sets were the future.

Turns out they weren't, but Samsung is gamely ploughing on with the idea and continues to offer a range of soundbars to match its geometrically-challenged screens.

The latest is the HW-MS6500, a curved variant of the staggeringly good HW-MS650 soundbar reviewed in *HCC* #273. Again, the

Connections include a single HDMI 2.0 input, ARC output, optical and 3.5mm inputs. A USB port lets you connect a dongle for Samsung's wireless rear speaker kit (SWA-9000S) and sub, creating a full 5.1 system.

Inside the 'bar are six 2 x 4.3in mid/bass drivers. Something Samsung calls Multi-Speaker Control is touted to ensure simultaneous movement for improved time alignment. Combined with Distortion Cancelling, this aims to result in bigger and more detailed bass (good enough to not worry about a subwoofer, it's suggested), while three wide-range inverted dome tweeters offer expansive treble dispersion.

Elsewhere the MS6500 packs in a plethora of features, including Bluetooth, DLNA streaming and multiroom support via Samsung's excellent smartphone app. The app gives you access to Spotify, Deezer, Qobuz, Tidal, Napster, JUKE, 7digital, Murfie and TuneIn radio.

Punchy performer

This generous feature list is backed up by a genuinely gob-smacking performance, the scale of which has more in common with a separates system than a soundbar.

Most remarkable is the bass output, which has the slam, depth and room-filling power to rival an external sub – and a decent one, too.

So when Jedha City is blown up by the Death Star in *...Rogue One*, it similarly wipes its groupiest rivals off the map with a roar so thunderous I was wondering if I should check my building insurance.

Not only are bass notes beefy, but they also reach depths that you don't expect from a single-body soundbar – indeed, its

low-frequency reach is quoted at an uncommonly deep 38Hz.

But it's not all about that bass – Samsung has tuned the MS6500 to deliver sweet-sounding treble, hitting levels of refinement I haven't heard from the brand previously.

Pin-sharp detail trickles through the speakers as Cassian and Jyn meander through Jedha City, whether it's whirring vehicles, footsteps or bleeping droids. The dedicated centre driver renders voices with authority and detail, while the nine drivers ensure a satisfying spread of sound.

In fact the only negative about the HW-MS6500 is, ironically, the thing that defines it – the curve. With interest in curved TVs diminishing, the market for a soundbar like this is becoming increasingly narrow, whereas the straight MS650 has more universal appeal. But if you are on a quest for a curved 'bar then they don't get better than this.

'Bass output is remarkable – this has the slam, depth and room-filling power to rival an external subwoofer'

headline feature is Samsung's Distortion Cancelling technology, which works to iron out low-frequency distortion before it happens, like a musical *Minority Report*.

But first things first – design. The MS6500 has a classy dark grey finish with brushed panels (always the height of AV sophistication), a metal grille and chamfered edges. It's every inch the premium soundbar.

Weirdly, the curve heightens the sense of elegance, making it even more attractive than its straight sibling.

A display shines through the front grille giving out inputs, volume levels and more. It's shoved to the right to make way for the dedicated centre speaker.

The MS6500 is a huge soundbar that won't suit sets under 55in. It's not slim *per se*, but slender enough to fit in the space below the screen of my resident telly without interfering with remote control operation.

SPECIFICATIONS

DRIVE UNITS: 6 x mid/bass drivers; 3 x wide-range inverted dome tweeters

AMPLIFICATION (CLAIMED): N/A

CONNECTIONS: HDMI 2.0 input and output (ARC); optical digital audio input; 3.5mm minijack input; USB port for wireless dongle

DOLBY TRUEHD/DTS-HD MA: No/No

SEPARATE SUB: No **REMOTE CONTROL:** Yes

DIMENSIONS: 1,160(w) x 80(h) x 168(d)mm

WEIGHT: 6.5kg

FEATURES: Distortion Cancelling; Multiroom app; Crystal Amplifier; Dolby Digital; DTS (2ch); 5 x DSP modes; 4K & 3D passthrough; hi-res audio playback; Bluetooth

Final standings

AS THIS CROSS-SECTION of the mid-range soundbar market demonstrates, choosing the right model isn't as easy as it seems. There's so much to consider. Do you need a sub? Are Wi-Fi and HDMI inputs essential or will Bluetooth and an optical port suffice? What about 4K passthrough and multiroom? It's a minefield, and that's before you've even considered which one sounds the best.

Thankfully, our group test has thrown up a clear winner that renders these considerations moot. The Samsung HW-MS6500 does all of the above and delivers a performance that's comfortably above the rest.

It's the only one of the four that can pass muster without a subwoofer, somehow matching all three for LF grunt using some nifty bass-boosting tech. That's great news for clutterphobes who don't have space for extra boxes. And if you're not down with the whole curved thing, simply pick up the virtually identical HW-MS650 instead.

Coming a close second is the Monitor Audio ASB-10, which has the brand's usual blend of classy design and refined sound. It digs out loads of detail and generates a huge soundstage with the £300 WS-10 sub in tow, but the £700 combined price tag seems a huge outlay.

In third place, LG's SJ8 gets most things right, delivering a big, exciting sound from a thin speaker and bringing a wealth of features to the table. But ultimately it's let down by comparatively unrefined sound quality and underwhelming volume. Bringing up the rear is Philips' Fidelio B1, which has some intriguing (and successful) microbeam technology and a cute design. Build quality is excellent and it musters a bigger soundstage than it has any right to. But a hard tone, boomy subwoofer and outdated HDMI ports spoil the show ■



HCC VERDICT

Samsung HW-MS6500

→ £600 → www.samsung.com/uk

★★★★★

Monitor Audio ASB-10

→ £400 (£700 with sub) → www.monitormedia.co.uk

★★★★★

LG SJ8

→ £500 → www.lg.com/uk

★★★★★

Philips Fidelio B1

→ £450 → www.philips.co.uk

★★★★★

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Premium Atmos sound attack

Sony is the latest brand to unleash a Dolby Atmos-enabled soundbar, and it's not a budget option. Does it give **Steve May** a taste of the home cinema high life?

AV INFO

PRODUCT:
Dolby Atmos-enabled soundbar/sub combi

POSITION:
Top of the range in Sony's soundbar arsenal

PEERS:
Yamaha YSP-5600; Samsung HW-K950

IT SAYS MUCH about the topsy-turvy nature of the AV market these days that this high-end Dolby Atmos-enabled soundbar sells for close on three times the price of Sony's STR-DNI1080 Atmos AV receiver. Of course, you need to add speakers to an AVR. The HT-ST5000 'bar just needs content.

A no-compromise subwoofer and soundbar duo, it has a feature set that goes some way to making the price tag easier to swallow. High-res audio support, dual-band Wi-Fi connection, Bluetooth and built-in Chromecast are among the specification hits.

Build quality seems exceptional, a hairline finish re-enforcing the HT-ST5000's premium position. The 'bar comes with a fabric cover, but I preferred it without its grille – with drivers as pretty as these, it's a shame to keep them covered.

Left and right are two matching coaxial speakers with gold-rimmed, high-frequency tweeters, while a step-down coaxial flanked by a mid/bass quartet takes centre stage. This arrangement translates to a slight timbre mismatch, although this isn't apparent in practice.

Up top, behind fixed metal grilles, are two upfiring Dolby-enabled speakers for Atmos and height duties. Sony describes the HT-ST5000 as a 7.1.2 proposition. There's no codec support for DTS, but PCM plays up to 24-bit/96kHz.

Connectivity, tucked around the back, includes four HDMI (three inputs, one ARC output). All are HDCP 2.2-ready for 4K sources, but need to be configured before being used with UHD content. Take them from Standard to Enhanced, in order to support 4K 60p and 4:4:4 (and lower) settings.

In addition to HDMI, there's the option of an optical digital audio connection or stereo via minijack. If you don't want to use Wi-Fi, there's an Ethernet terminal, while Bluetooth supports NFC pairing and LDAC (Sony's own high-bandwidth protocol). On the bar's right side is a covered USB port.

The HT-ST5000 offers similar user functionality to a standalone AV receiver. A tiled onscreen interface lists input options, along with any connected home network devices.

Subwoofers are typically victims of an ugly stick, but what we get here is no mere MDF box. Cosmetics comprise a forward-facing grille, matt lid and stylised plinth. There are drivers front-facing and downward-firing. The sub connects to the 'bar automatically during setup, with an LED-confirming handshake.



Let it loose

When Sony gets serious with hi-fi, it has a tendency to be overly-polite. But thankfully I never got the impression that the HT-ST5000 has been tuned by black-tie engineers.

The 'bar' images high and wide, and etches sonic detail with astonishing accuracy. Inevitably, though, there are expectations that the Dolby Atmos decoder will offer overhead audio and even surround effects. But in that regard, some users may find the HT-ST5000 lacking.

When rain pitters down at the climax of *John Wick* on Blu-ray ('No more guns, John'), it's as if a cloud sits forlornly about the soundbar itself, rather than the listening position.

Yes, those upfiring drivers can dispel a sprinkling of sound, but much depends on how far you sit from the soundbar and the height of your ceiling.

After some experimentation, I found a distance as short as 1.5m worked best; this delivered a consistent

'This system, unlike some 2.1 systems we've seen, can really kick LFE butt. I feared neighbours would complain'

panoramic soundstage that canopied toward my listening pouffe. But even then I wouldn't compare the experience with that of a dedicated AV receiver running speakers in a 5.1.2 (or greater) configuration. Sit further back and the presentation becomes overtly stereophonic, albeit with a greater sense of width and height than you might get from a more standard two-channel soundbar.

Of course, as Dolby repeatedly points out to me, Atmos is an experience designed to reflect the hardware it plays on. So maybe there is actually no wrong or right to the presentation?

Not that I didn't love what the HT-ST5000 was doing. *Ghost in the Shell: Innocence* (Blu-ray) with its spectacular parade sequence, features choir, drums and seagulls all intelligently delineated. The mix is big and spacious.

And this system, unlike some Sony 2.1 (sic) packages we've seen, really can kick LFE butt. The subwoofer claims a drop to 31.5Hz, and you can expect dislodged plaster at 50Hz.

When an anchor nearly lands on Mark Wahlberg's head in *Transformers: Age of Extinction* (Blu-ray), the sub rings like a lead bell. When the Star Ferry follows, I feared



SPECIFICATIONS

DRIVE UNITS: 2 x Dolby-enabled upfiring; 3 x coaxial tweeter/woofers; 4 x mid-range drivers **AMPLIFICATION (CLAIMED):** 800W total **CONNECTIONS:** 3 x HDMI inputs; 1 x HDMI output (ARC); 3.5mm stereo minijack; optical digital audio input **DOLBY ATMOS/DTS-HD MA:** Yes/No **SEPARATE SUB:** Yes, wireless **REMOTE CONTROL:** Yes **DIMENSIONS (SOUNDBAR):** 1,180(w) x 80(h) x 145(d)mm **WEIGHT (SOUNDBAR):** 8.2kg **DIMENSIONS (SUB):** 248(w) x 403(h) x 426(d)mm **WEIGHT (SUB):** 14.1kg

FEATURES: Bluetooth with LDAC and NFC; dual-band Wi-Fi; Ethernet; surround processing modes (incl. 3D surround); wall-mountable; wireless subwoofer; DLNA compliant; file support includes FLAC and DSD; USB input; HDCP 2.2 on all HDMI

PARTNER WITH



JOHN WICK: CHAPTERS 1 & 2: We review the sequel on standalone Ultra HD Blu-ray this issue (p105) but *John Wick* freaks may want to pick up this 4K double-pack, available for around £40. Both movies feature reference-grade Atmos mixes.

my neighbours might complain. The soundbar crossover is set to 100Hz.

All of the HT-ST5000's drivers can be used, even if your Atmos library is thin on the ground. Height-scaling can be applied to all sources, and many will probably leave this on by default. While uplifting a flat soundmix can be hit and miss, I found it can really enhance the ambience of live music. With the *Legends of Jazz* Blu-ray, the HT-ST5000 uses its upfiring duo to noticeably bolster the atmosphere of the recordings.

It handles disparate genres well, too. With a claimed total power output of 800W, you would expect this 'bar/sub combi to belt out a 24-bit/96kHz FLAC vinyl rip of *Rust in Peace*, by Megadeth, with some gusto. But in 3D Surround mode, iconic opener *Holy Wars* appears to herald Armageddon.

Sony is leading the charge when it comes to mass-market hi-res audio, and even endows its soundbars with DSD file support. Marianne Thorsen's *Mozart Violin Concerto in D Major*, from *Mozart Violin Concertos* (2L), is wonderfully precise. Shut your eyes and the performance could be live.

While the HT-ST5000 is very much a high-res audio component, you can upscale compressed audio files using its DSEE HX processor. There's also a DRC (Dynamic Range Compression) control, but this should be left off unless you want the guts ripped from your music.

Articulate offering

This can be considered a superior soundbar proposition. While it doesn't envelope as effectively as Samsung's HW-K950 or Yamaha's YSP-5600 (both a shade more affordable), and lacks DTS:X compatibility, it offers superb high-res articulation which goes a long way to justifying that topky ticket price ■

HCC VERDICT



Sony HT-ST5000

→ £1,500 → www.sony.co.uk

WE SAY: Sony's Atmos debutant doesn't surround as it promises, but is nevertheless a sweet-sounding 'bar with an ear for hi-res audio and a smart design.

1. Sony's flagship soundbar (approx 1.2m wide) is best suited to large TVs

2/3. Atmos drivers are housed at each end to reflect audio to your listening position

TCL's big idea

This 55in 4K set promises wide colour excitement, HLG HDR support and premium third-party sonics – all at a tempting price. **Mark Craven** investigates



TCL IS LIKELY to be an unfamiliar brand to many. Yet the company, whose name is apparently an acronym for 'The Creative Life', is much better-known in other regions, not just in its Chinese homeland, but in Australia, the US (where it claims to be the fastest-growing TV brand, and integrates Roku functionality), and elsewhere.

A key part of its business (in addition to areas including the Alcatel mobile phone line), is panel production, under the China Star Optoelectronics Technology name. TCL says this division is the fourth-largest panel producer in the world, with a focus on 48in and above displays, including 4K. Some it sells to other corps, some it uses for its own TV lines – both the TCL 'premium' brand, and

the mass-market Thomson. On test here is the TCL U55C7006, a 55in 4K HDR LED designed to undercut rivals via a £1,000 price tag. An enthusiast set, without the enthusiast cost.

Styling is fine, if a little uninspiring. It's a flat, rather than curved

screen, which will suit most, framed by a slim silver bezel and sat atop two slinky feet. Running along the TV's bottom edge is a speaker bar, proudly wearing the name JBL, denoting a tie-in between TCL and the Harman audio outfit.

And sonically, this seems a worthwhile team-up. Front-firing dome tweeter and midbass drivers at either end of the 'bar' create a punchy sound, with a strong mid-range, and there are considerable tweaking options at hand.

Previously, many affordable TVs from lesser-known corps have been hampered by low-rent smart systems that are shorn of features and painful to navigate. Google's Android platform, as featured here, levels the playing field, with its strong selection of apps and responsive UI. Bundled with the TV is a standard IR zapper; a stripped-down voice-control model is, unusually, an optional extra.

The set sits below TCL's flagship Quantum Dot X series, coming later this year, but shares many of the same features, including HDR 10 and HLG format support, quad-core processing and a wide colour performance (rated in this instance at 90 per cent of DCI-P3).

On paper it looks good, but in real life its performance is held back by a lack of HDR brightness and some – perhaps to be

SPECIFICATIONS

3D: No **4K:** Yes, 3,840 x 2,160 **HDR:** Yes. HDR 10; HLG **TUNER:** Yes. Freeview HD **CONNECTIONS:** 4 x HDMI inputs; 2 x USB; RF input; Ethernet port; optical audio output **SOUND (CLAIMED):** 2 x 12W **BRIGHTNESS (CLAIMED):** 400 nits **CONTRAST RATIO (CLAIMED):** 'Mega' **DIMENSIONS (OFF STAND):** 1,243(w) x 720(h) x 555(d)mm **WEIGHT (OFF STAND):** 16.4kg

FEATURES: JBL speaker array; 10-bit, wide-colour panel; quad-core processor; Android TV (incl. 4K VOD apps); USB/network file playback; GoogleCast

For smart features, TCL's U55C7006 uses Google's Android TV system

expected at this price – unsophisticated edge LED panel illumination. TCL suggests a fair 400-nit luminance for the U55C7006 but I never felt this 55-incher had the artillery to do HDR Blu-rays serious justice when it came to bright highlights – *The Magnificent Seven* (Ultra HD Blu-ray) subsequently felt a little subdued. At the other end of the contrast scale, your appreciation of its healthy black levels is held back by instances of backlight clouding and blooming around bright objects.

While this can distract, it doesn't occur persistently, and with 16:9 content in particular the TV's strengths shine through. It proves a good fit for everyday viewing – the recent Cricket World Cup (Sky) offered crisp detailing (the set works well at upscaling non-4K sources) and enough luminance and colour nuance to bring a sense of depth to proceedings.

Motion is another area where this TCL belies its affordable ethos. With no processing mode to call upon, you get what you're given. Fast pans and rapid onscreen movement can exhibit blur, reducing the overall impact of the TV's 4K panel.

Room for one more?

TCL's U55C7006 joins a barrage of 4K TVs that cater for those unable to entertain higher-spec sets. Its standout features are its colour performance and crisp imaging, audio prowess and HLG HDR futureproofing. But it can be found wanting when subtlety and precision are required, both with backlighting and motion. Better with some sources than others ■

HCC VERDICT



TCL U55C7006

→ £1,000 → www.tcl.eu/en

WE SAY: This largescreen/low-cost mashup from the Chinese giant has appealing traits, but isn't an all-round success.

AV INFO

PRODUCT:
55in 4K HDR
edge-LED TV

POSITION:
Mid-range option
from TCL

PEERS:
Hisense 55M5500;
Samsung 55MU6200;
Panasonic
TX-55EX600

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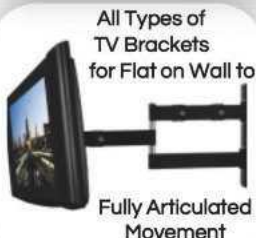
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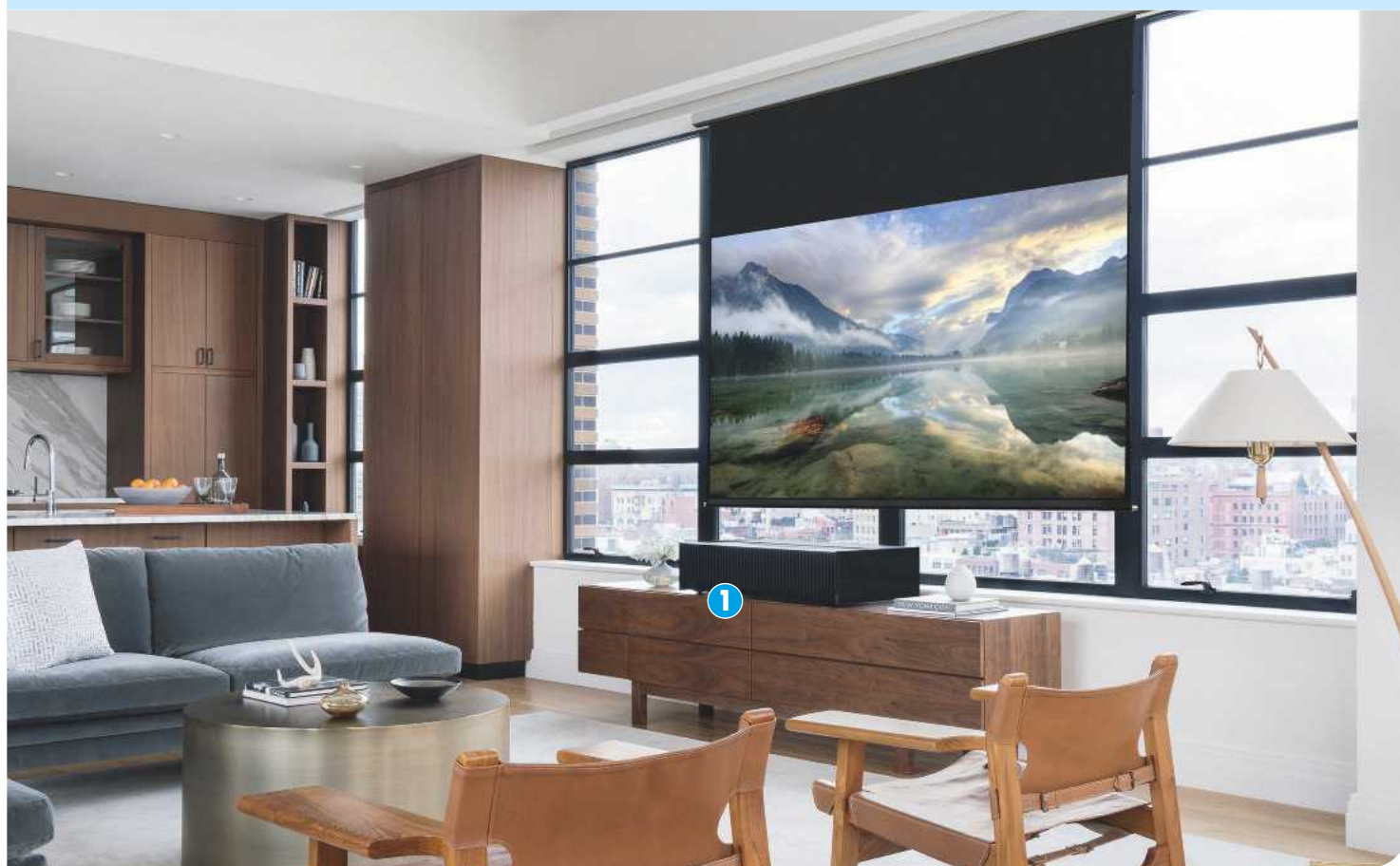
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Throwing 4K up against the wall

This premium ultra-short-throw projector can make any space an Ultra HD screening room. But **Steve May** finds it's more comfortable with some sources than others

SONY'S VPL-VZ1000ES PRESENTS itself as the future of home cinema/largescreen viewing. And certainly, at face value, it's irresistibly seductive. This SXRD beamer needs only sit 155mm from a wall to cast a 4K-resolution image 100in across. It offers stunning clarity, from a cabinet that could pass for a funky coffee table in a suitably ostentatious apartment. But it comes with caveats... and a huge asking price.

Sony has dabbled in this market before, of course, with the LSPX-W1S, launched in 2015. This other 4K UST outing was simply gargantuan – impressively, the VPL-VZ1000ES arrives some 40 per cent smaller (although it's still got a sizeable footprint of just under a metre wide). And while £17,500 isn't pocket change, the LSPX-W1S cost more than double.

The projector uses a high-efficiency Z-Phosphor laser light engine. This means you can look forward to low maintenance and TV-style response times – there's no need to wait for the lamp to warm up. There are also four HDMI inputs (two side-mounted, two rear-mounted),

all v2.0 with HDCP 2.2, making it easy to accommodate a games console, set-top box and UHD Blu-ray player without having to swap cables.

Styling is perhaps best described as 'industrial' – the VPL-VZ1000ES is black, boxy and square-edged. It's by no means ugly, though.

Ultra-short-throw projectors have a unique appeal. If you want to put a monster image in a room with sightline-blocking lighting (those candelabras are a nuisance, aren't they?), or other physical restrictions, then they're a godsend. And if you don't have the floor space close to your wall, you can always ceiling-mount (gulp) or use the rear-projection mode.

A curious omission is the absence of in-built speakers. The LSPX-W1S packed a pair of two-way cabinets into its chassis; this model does away with audio altogether. So it's not quite a one-stop home entertainment shop.

For this audition, we partnered the VPL-VZ1000ES with a 120in light-rejecting fixed screen, but you could just as easily whitewash a wall.

AV INFO

PRODUCT:
Ultra-short-throw
4K HDR laser
projector

POSITION:
Sony's premium
short-throw model

PEERS:
JVC DLA-Z1;
Sony VPL-VW1100ES

Image size is dictated by the distance of the projector from a wall. As a result, it's actually quite simple to install. An Auto Calibration mode manages white balance, while lens shift and adjustable feet allow you to frame up the picture. That said, given the price of the VPL-VZ1000ES and the outlets it's available from, you probably won't be installing it yourself.

Given its form factor, this projector is unlikely to be specified as part of a traditional home cinema. It's a lifestyle solution, likely to end up in a media room, so a constant level of ambient light is probably inevitable. Consequently, the most valuable preset actually transpires to be Bright Cinema. A Bright TV mode provides an even bigger light boost, but it's too much for authentic movie viewing. If you can view in full dark-room conditions, the Cinema Film options work better.

Ready for HDR

The projector is HDR 10 and HLG HDR compatible (but not Dolby Vision-enabled) and auto detects HDR content. Contrast (HDR) is adjustable via a sliding scale. The VPL-VZ1000ES will project Ultra HD up to 60 frames per second (either as 4K 60p YCbCr 4:4:4 8-bit, or YCbCr 4:2:2 12-bit).

A 4K resolution pattern confirms that the projector delivers unfettered

2160p from centre to edge, and when images are cast large, this Sony really showcases the pixel density of UHD sources. But it's not the knockout performance you might be expecting.

Sony's picture processing definitely dazzles. Reality Creation offers adjustable resolution and noise filtering, and even with native 4K content, proves enormously effective: fine detail, as seen in *Planet Earth II* (UHD Blu-ray), gains extra visual snap without unwanted edge emphasis.

The VPL-VZ1000ES is rated at 2,500 Lumens, a 20 per cent increase over its forebear, yet proves to be no dynamic light-cannon, and in rooms with some ambient light it struggles for contrast. With HDR material, it doesn't have the energy to punch out spectral highlights. HDR discs often just look dark. Things improve when the lights are turned off, but black level performance remains limited and shadow detail sometimes gets lost.

The perennially gloomy *Resident Evil: The Final Chapter* (UHD Blu-ray) presents this Sony with insurmountable problems. The final climatic raid on The Hive, which involves perilous poorly-lit underground tunnels and chambers, illuminated only by flashing torchlights, is flat. It's often difficult to make out what's going on, as the projector struggles to distinguish low-level blacks.

It doesn't take long for the penny to drop that this Ultra HD model is at its best with SDR content. Partner it with a Sky Q box, or BT 4K IPTV box, offering SDR 2160p with a REC.709 colour space, and it'll look terrific. It's tailor-made for Formula 1 or Premier League footy in UHD. Colour handling is excellent, with strong hues and plenty of smooth tonal shifts.

SPECIFICATIONS

3D: Yes. Active 3D (glasses optional) **4K:** Yes. 4,096 x 2,160 resolution **HDR:** Yes. HDR 10; HLG **CONNECTIONS:** 4 x HDMI inputs (all v2.0 with HDCP 2.2); RS-232C; USB; Ethernet; IR input; 12V trigger **BRIGHTNESS (CLAIMED):** 2,500 Lumens **CONTRAST (CLAIMED):** 'Infinite dynamic contrast' **DIMENSIONS:** 925(w) x 218.5(h) x 493.8(d)mm **WEIGHT:** 35kg

FEATURES: 3 x 0.74in SXRD panels; Z-Phosphor laser light engine; 24dB claimed fan noise; Cinema Film 1, Cinema Film 2, Reference, TV, Photo, Game, Bright Cinema, Bright TV and User picture presets: MotionFlow Smooth High, Smooth Low and True Cinema modes; powered vertical and horizontal lens shift; adjustable feet; Triluminos colour; floor-stand, ceiling-mount and rear-projection installation

PARTNER WITH



SONY TDG-BT500A: Your dealer may chuck in some 3D spex, but if not, Sony's active shutter glasses retail for around £50 each. Lightweight (35g), they use a replaceable lithium coin battery rated to last for around 100 hours.



Feed the VPL-VZ1000ES Full HD Blu-rays, which enjoy a higher average picture level than HDR discs, and the results are joyous to behold. I ran

the 4K edition of *Mad Max: Fury Road*, against the regular Blu-ray, and it was the latter that held my attention. In a media room environment, you need big, bold images that cut through.

When Max attempts to evade the death-obsessed War Boys, in the opening chase sequence, it's the 1080p Blu-ray which offers the greatest overall sense of vibrancy. If you want to see something akin to what the colourist rubber-stamped, then my advice would be to invest in a real theatre room with an appropriate long-throw projector.

Glorious conundrum

Sony's premium VPL-VZ1000ES projector is a glorious conundrum. In terms of design and execution it's a beauty, with superb resolution, and excellent colour rendering and motion handling. However, it's not really got the light output for effective HDR in ambient lighting conditions, where it generally tends to look better with SDR source material.

Install it in a Batcave though, and the dynamics improve greatly. This could be the ideal solution for difficult theatre spaces or designer lofts, and for those with cash to spare. Judged on that criteria it's undoubtedly successful ■

1. The promise of Sony's PJ is a 4K TV without actually having to fit a 4K TV

2. The VZ1000ES is smaller than its predecessor, but still 92cm wide

HCC VERDICT



Sony VPL-VZ1000ES

→ £17,500 → www.sony.co.uk/pro

WE SAY: This 4K HDR projector may not be for hardcore cinephiles, but its ultra-short-throw design works superbly well and performance dazzles with Blu-ray and SDR 4K.



Tangent gets in line

This smart-looking Danish 5.1 speaker pack gives buyers a lot for their money. **Danny Phillips** lets it take him on a trip to the Mine of Moria and beyond

IN A WORLD Cup of speaker brands, Denmark would field a pretty decent side. DALI, Dynaudio and Bang & Olufsen are the established star players, but now a relatively new name is coming off the bench to make an impact. That name is Tangent.

For the last 20 years (a blink of an eye in hi-fi terms) this Danish brand has been creating speakers that blend sleek Scandinavian design with efficient audio quality, but always with one eye on affordability.

Its Spectrum series encapsulates everything Tangent is about. Stylish, well-made and nicely priced, the range started life with the Spectrum X4 and X5 bookshelf speakers, alongside the active/Bluetooth X5.

But in August last year the range was bolstered by the addition of three new models – the X6 three-way floorstander, the Spectrum XC centre and the XSW-8 subwoofer.

With the range complete, Tangent has been able to assemble the 5.1 system you see before you, using a pair of X6s on front duty and the X4s as surround speakers, supported by the XC and XSW-8.

At £600 a pair, the X6 floorstanders are reasonably affordable but their design is anything but cheap. In fact,

build quality is superb for the money, with hefty cabinets and smooth matt finishes giving them a premium feel, despite the lack of curves. A tap on the side gives out a reassuringly dull thud – testament to an inert construction designed to reduce cabinet colouration and resonance.

Colour-wise they come in a choice of polar white or midnight black, and my white samples (pictured) are proper head-turners. Particularly eye-catching are the pre-attached walnut plinths, which have a slight Ikea showroom vibe but form an undeniably striking contrast with the white finish. Colour-matched mesh grilles on the front protect the drivers from wandering fingers, while on the back is a bass reflex port and a pair of gold-plated banana plug-compatible binding posts.

Also pleasing is the X6's compact size, which gives you plenty of placement leeway. Some floorstanders suck up the space around them, but the X6s just slot in with minimal fuss. At 923mm high by 166mm wide, they won't look out of place in a medium-sized living room.

In terms of driver tech, there's nothing revolutionary to report, just a good old-fashioned array of cones and domes. The X6s use two 5in mid/bass paper drivers and the same 1in dome fabric tweeter used across the entire system to

AV INFO

PRODUCT:

Floorstanding 5.1 speaker system

POSITION:

One of several affordable ranges alongside Aspect and EVO

PEERS:

Polk Signature 5.1; Dynaudio Emit 5.1; DALI Opticon 5.1

ensure tonal consistency. Like the X6, the horizontally-mounted XC is a manageable size, making under-TV rack placement a possibility. Its dual 4in mid/bass drivers flank the tweeter.

A single 4in driver joins the tweeter on the smaller X4 standmount, which can be wall- or ceiling-mounted using optional hardware.

Onto the XSW-8. This hasn't been drafted in from a pool of pre-existing subwoofers; rather, it's Spectrum through and through, reflected in the perfectly-matched white/walnut styling and grey mesh grille. It's cube-shaped, solidly built and so compact you'll hardly notice it, although bass fiends may not be immediately impressed by its 8in front-firing driver and 90W amplifier spec.

Value for money

In action the Spectrum package delivers a clean, neutral sound that complemented anything I threw at it. Power and detail go beyond what I'd expect for the money, and the sub fleshes out the soundstage with solid, agile bass.

With practically the same drivers employed in each speaker, there's a lovely sense of cohesion across the system and fluid movement between channels. It's dynamic and attacking without any obvious brashness, and when the action hots up it's capable of a big soundstage with convincing scale.

First up was *The Fellowship of the Ring* (Blu-ray), and having not seen it for a while the Tangent reacquainted me in style. It's bursting with delicate detail from the off, from the rural murmur of the Shire to the eerie atmosphere inside the Mine of Moria, and the sequence where Pippin knocks the armour into the well provided a stunning display of this system's detail and surround prowess. The echo expands into space and the clank of metal has the necessary impact without making me wince.

When the Cave Troll attacks, it's a hoot – the beast's footsteps are big and beefy, while metallic weapons, voices and arrows fizz at you from every speaker. The soundstage gets a little congested, and the sub sounds like it's striving from time to time, but it's more composed than you might imagine from an affordable system being driven at stupidly loud volumes.

Liam Neeson's opening narration to *The Huntsman: Winter's War* (Blu-ray) has remarkable presence and detail. As he purrs and croaks in his distinctive Northern Irish accent, the XC renders it with considerable accuracy, adding smooth sibilance and subtle bass for extra realism. Sadly the same is true for Chris Hemsworth and Jessica Chastain's 'Scottish' accents, laid bare in all their garbled glory.

2



SPECIFICATIONS

Spectrum X6

DRIVE UNITS: 2 x 5in mid/bass drivers; 1 x 1in soft dome tweeter **ENCLOSURE:** Bass reflex **FREQUENCY RESPONSE (CLAIMED):** 50Hz-20kHz **SENSITIVITY (CLAIMED):** 88dB **POWER HANDLING (CLAIMED):** 200W **DIMENSIONS:** 923(h) x 166(w) x 343(d)mm **WEIGHT:** 13kg

Spectrum XC

DRIVE UNITS: 2 x 4in mid/bass drivers; 1 x 1in soft dome tweeter **ENCLOSURE:** Bass reflex **FREQUENCY RESPONSE (CLAIMED):** 55Hz-20kHz **SENSITIVITY (CLAIMED):** N/A **POWER HANDLING (CLAIMED):** 100W **DIMENSIONS:** 240(h) x 465(w) x 198(d)mm **WEIGHT:** 6.2kg

Spectrum X4

DRIVE UNITS: 1 x 4in mid/bass driver; 1 x 1in soft dome tweeter **ENCLOSURE:** Bass reflex **FREQUENCY RESPONSE (CLAIMED):** 65Hz-20kHz **SENSITIVITY (CLAIMED):** 88dB **POWER HANDLING (CLAIMED):** 200W **DIMENSIONS:** 275(h) x 146(w) x 198(d)mm **WEIGHT:** 7.75kg

Spectrum XSW-8

DRIVE UNITS: 1 x 8in woofer **ENCLOSURE:** Sealed **FREQUENCY RESPONSE:** 31Hz-250kHz **ONBOARD POWER:** 90W **REMOTE CONTROL:** No **DIMENSIONS:** 280(h) x 270(w) x 275(d)mm **WEIGHT:** 12kg **CONNECTIONS:** High-level speaker inputs; analogue phono input

PARTNER WITH



TANGENT EVO WALL BRACKET:

The Spectrum X4 speakers can be wall-mounted using this optional bracket, initially designed for Tangent's EVO range. £50 gets you a pair, which will mount the speaker at a slight downwards-facing angle.

Later, as the Huntsman fends off an attacker outside a tavern in the pouring rain, the combat is agile and exciting. The subwoofer pulses tightly with each punch and rain hisses around the soundstage with welcome clarity.

Another disc switch to *Jurassic World* confirms the Tangent's ability to entertain. When the *Indominus Rex* escapes from its enclosure, the system ratchets up the tension with huge footsteps, menacing monster snarls and a dramatic score.

Put on some music and system's inherent neutrality gives you an honest and insightful performance. Instruments are rendered with plenty of detail and the spacious soundstage has the feel of a live performance. The subwoofer gels it all together nicely, and vocals sound natural.

Gobble it up

Overall, this Spectrum 5.1 set is a fine option at the price. It's well made, easy on the eye and sounds generally great with movies and music, while accepting a lack of refinement that marks it out as not a high-end option. Those in the market for a 5.1 system that won't break the bank or gobble up living space should investigate ■

HCC VERDICT



Tangent Spectrum 5.1

→ £1,300 → www.tangent-audio.com

WE SAY: With its gorgeous design, solid build and impressive performance, Tangent's 5.1 system is well worth a look if you want full-fat home cinema without stretching your cash.

1. 1in dome tweeters and paper mid/bass drivers are used across the Spectrum range

2. Tangent's polar white finish is designed to blend well in living room setups

1More MK802

Ed Selley happily makes space for one more pair of Bluetooth headphones...

GIVEN THAT EVERY headphone company going has been releasing Bluetooth headphones like mad, you might think we don't really need any more new arrivals. Shenzhen-based 1More feels a little differently – the company has launched a range of in-ear and over-ear models and the MK802 combines the latter design with active operation and aptX-capable Bluetooth.

While they look a bit bling in their red or blue finish options (what's wrong with black, eh?), the technology of the 1More is a little more grown-up. The 40mm 'aerospace-graded' Beryllium-

Don't like blue? There's a red option, too



coated drivers use a triple-layer construction, and there is a smartphone app (1More Music) for controlling the headphones that has a process to help burn-in.

Build quality isn't stellar, but they easily feel worthy of the £150 ticket. On-body controls are logical and well placed and connected wirelessly, the range is good and the connection stable. As a final welcome bonus, they're comfortable to wear for long periods.

They sound good, too. Used in passive mode, the MK802s manage to avoid coming

across as flat or muffled, and handle the Fallujah chase sequence in *War Dogs* effectively. For a closed-back design, there is plenty of space and three-dimensionality to the soundstage, with dialogue well-separated from the rest of the action onscreen.

Switch to Bluetooth and things get even better. The in-built amplification is well judged and powerful and there's no shortage of headroom. Tonal balance is very even and the bass response manages to be gutsy without being overblown. There's even reasonably good fine volume adjustment.

These cans might not come from one of the more obvious brands but the MK802s are a cracking performer at a bargain price. Possibly too good to ignore ■

HCC VERDICT



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Avegant Glyph

This head-mounted home cinema gets **Jamie Carter** hot under the collar

WHY SPEND ALL that time and money constructing the home cinema of your dreams when you can just put on a head-mounted display and get a similar effect? Posing that question is the Avegant Glyph, which looks like a pair of headphones, but instead of being worn over your head, drops down in front of your eyes.

No, it's not a VR or AR headset – this is 'personal video', and it needs some tuning-up; the eye-pieces have to be adjusted, and there are focus wheels, too. Oh, and a selection of nose-pieces.

Video comes from anything with an HDMI output, funnelled through an HDMI-to-micro-HDMI cable in the box. It's easy enough to attach the Glyph to a Blu-ray player, or a games console, and watch whatever you want – and then keep it to yourself.

What you see is roughly the equivalent of a 65in screen from a few metres away, which does initially scream 'home cinema'. However,

the resolution is limited to HD-ready levels. Judged on image quality, it's also too bright, on all settings, and leaves a glare. But it sounds great.

The Glyph is also a big and heavily-padded gadget; wearing it for more than about 20 minutes is thirsty work. Since it's possible to see your surroundings above and below the screen while you wear the Glyph, it's tempting to step outside the virtual cinema to cool down.

A head for business

In theory, these are an intriguing proposition for frequent business travellers (and priced accordingly) who want a mobile home cinema experience (although an adaptor is needed for

The Glyph hooks up to smartphones (via adaptor) or any HDMI device



smartphones). However, the Avegant Glyph is heavy, it's hot, and it lacks the image calibration controls anyone with a home cinema would intuitively insist upon. Fun, but not essential ■

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'OPTICAL DISCS STILL HAVE A LONG WAY TO GO'

Blu-ray encoder David Mackenzie works for specialist labels in the UK and around the world to bring classic movies to your cinema room in tip-top condition. **Anton van Beek** quizzes him on bits, budget players and Disney 'toons

First off, what exactly does the job of a Blu-ray encoder entail?

It's really converting the film content into something that consumers can enjoy. Normally I'm not involved in restoration, but what I usually get is a video master that has been formatted for HDTV. It just needs to be able to fit onto a disc. This is the encoding side.

When the film comes to me it's typically in a very mildly compressed form, or it's uncompressed. The bandwidth needed for 1920 x 1080... to store the uncompressed RGB format that comes out of the film scanner, that would pretty much fill a 1.5TB hard drive. A standard Blu-ray disc is 50GB, so the compressed result is something like two per cent of the original file size. So when people ask me time and time again, 'What is it you actually do?' my whole distilled explanation is: 'My job is to make it two per cent of the original file size, but to only lose one per cent of the quality of the original.'

Compressed video on consumer formats works by identifying redundancies in an individual frame, and also between frames. On 1080p Blu-ray, the format typically only stores a full frame once every second. Everything else in between that is reconstructed by the MPEG decoder in the player by referring to other frames, and to that fully transmitted frame. So, unpredictable motion like rain, sparks, or confetti, and, of course, film grain... preserving all that stuff is difficult. If you're storing only one whole frame per second, and providing the MPEG decoder in the player with instructions on how to rebuild the picture on the other end, you'd better hope that the



David Mackenzie's encoding/authoring talents have seen him work for a variety of premium Blu-ray labels

computer code writing those instructions is really good. That's why you see differences in encoding – some algorithms are much better than others.

How did you get into this job?

My background is in consumer electronics in general. There are two sides to what I do – one of them is advising TV manufacturers on how to have their displays not mess up movies, basically. I also calibrate displays. Not for a living, it's not my main thing, but I do calibrate displays if I have time. I normally do it for CE manufacturers. I would rather that not be necessary. I would rather that consumers buy a TV, plug it in and see exactly what the director intended. That's not a radical idea...

That's one prong of what I do. How I got into encoding and authoring was with a company called Mondo Vision, which is based in California. It was one of those chance things, the owner of that company watched Andrzej Zulawski's *Possession* (1981) and was so taken by it that he embarked on this mission to make Zulawski's films better known to English speaking audiences.

Anyway, he had a master tape – a Digital Betacam tape – that was PAL format and he wanted advice on how to convert this to NTSC so it could be released in the US. He found me online talking about the different methods of standards conversion between PAL and NTSC and what the proper way to do it for film (rather than video) footage was. I guess I'm lucky that he decided that I knew what I was talking about. To cut a long story short he had this lab in Hollywood

doing the work and he told them 'This guy is going to advise you'. This was a big facility, they had Hollywood work, and here was this new niche label with an arthouse movie, getting on their case to make sure it was done right. In the end, they just had me do the entire thing. So, I was kind of thrown into this situation. I knew what I was doing with DVD authoring and encoding, I'd done test discs for manufacturers before, but that was my first time producing a disc of a film that would actually be on sale.

I did DVD work for Mondo Macabro and a few other labels after that. It was really when James White [restoration expert, see HCC #267] saw the work I'd done on a difficult restoration, that working with several of the UK labels really exploded for me. He brought me down to London to meet the people at Arrow and Eureka, and things went from there.

You said encoding and authoring...

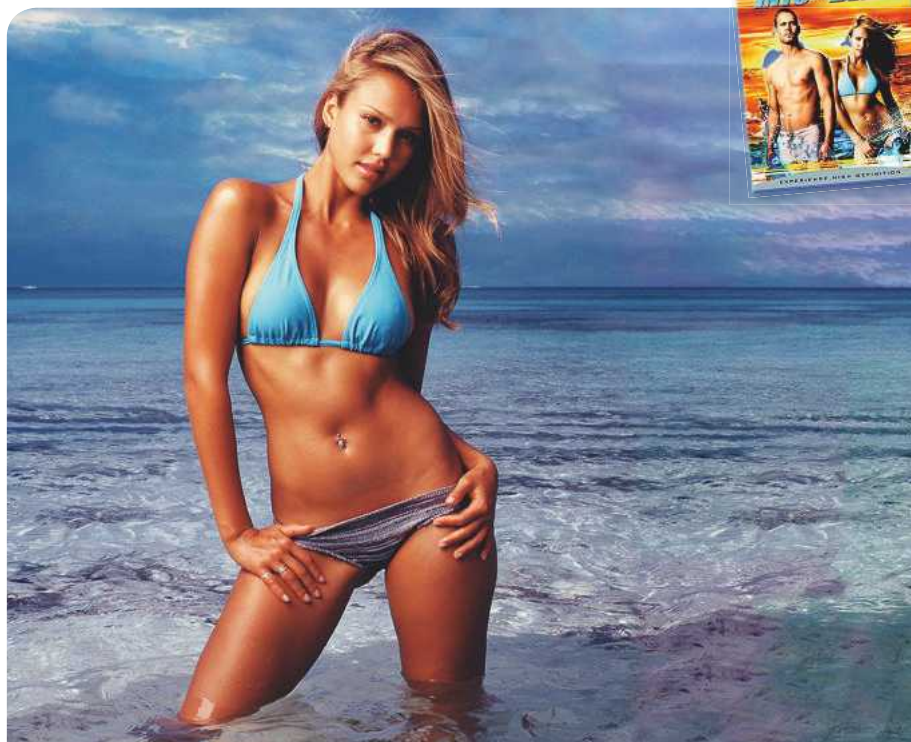
The less interesting side is the actual authoring work. People conflate the two terms. The two aspects go hand-in-hand, because they feed into each other, but they're different processes. The encoding is what influences the picture quality. The authoring is all of the programming: doing the scene selection buttons, writing the program that turns the subtitles on.

The analogy I make is encoding is like preparing the ingredients and authoring is baking the cake out of them. You're bringing a whole bunch of elements, subtitles from here and audio commentary from there and video from here and interviews that came off an old VHS, and you're making something cohesive out of it that plays in peoples' players. And honestly, one of the reasons that I'm so addicted to finessing picture quality in this way is that I think Blu-ray is almost taken for granted, but the history of the format is so interesting. You remember the ridiculous format war with HD DVD?

Of course!

Sure. Blu-ray was originally developed in Japan as a way of recording HDTV broadcasts. In 2003/4 they had that expensive Sony player and the Blu-ray disc was sealed inside a cartridge – you could record HDTV with that. It was the first life of Blu-ray. So it almost had a second wind as packaged media. They added copy protection. They developed a coating so that if you got a fingerprint on the disc it wasn't completely damaged; that's why it was in the cartridge originally. They added the region-coding nonsense that Hollywood insisted on.

When Blu-ray was launched in the West as a packaged media format, it then had to compete against HD DVD. The original plan for Blu-ray was for it to be exclusively based on MPEG-2. Their argument was that they developed this optical disc system with really high bandwidth, which was sufficient for good HD picture quality with the older MPEG-2 codec, so adding complexity to the decoder in the player wasn't necessary because they'd solved that problem with their disc format already. On Blu-ray, the maximum video bitrate is 40Mbps, which for 1080p is a good amount of bandwidth – even with MPEG-2. But then, thanks to what the HD DVD camp were doing, we ended up with both



formats supporting MPEG-2, VC-1 and AVC. AVC is now the standard.

You can then take AVC – and not all AVC encoders are equal, and the people operating them aren't either – and have it at a nice, high bandwidth that was originally designed for a much older system. The point I'm getting at here is that with Blu-ray you can get images that would not even be possible in a studio environment 10 years ago, and you get all this out of a player that you can buy for £60. It's crazy. And the thing with replicating optical discs is that it's digital so there's no subtle differences between one copy and the next, every one is as good as the last. If I just get the encoding and authoring right, then that can enable consumers to see quality that is nearly as good as the studio master. And that's so addictive. Frankly, it's one reason why I don't care about streaming yet. It's fine for certain uses, but for film content, perfection just isn't even in the equation. I think optical discs have a long way to go yet.

From your side of things was it a case of pure evolution, with VC-1 being a step forward from MPEG-2, and AVC moving on from VC-1?

If you remember back in the early days of the whole format war, many of the first HD DVDs looked quite a bit better than the first Blu-rays. That was partly due to VC-1 versus MPEG-2, but it was also because they had some help from Joe Kane and other video experts who were advising them on best mastering practices. Some of the first Blu-rays were made from very unsuitable masters.

On a purely technical level, AVC is more advanced than VC-1, which in turn is more advanced than MPEG-2. But remember, all encoders aren't made equal – in early tests, AVC originally performed worse than MPEG-2. These things need time to mature and develop.



Blu-ray launched with titles such as *Into the Blue* (top) encoded with MPEG-2, but the format war with HD DVD saw both VC-1 and AVC also quickly adopted

Andrzej Zulawski's 1981 chiller *Possession* – the movie that began Mackenzie's encoding career...



I assume there's something to be gained from taking a more dynamic approach to encoding a disc rather than just simply hitting a button...

Sometimes, you'll find that a disc replicator also does authoring work as a side business, for smaller studios: compression and authoring aren't their speciality, and I don't think they really approach it as a finessed process. For them, it's just one thing that has to be done before they can manufacture however many thousand units, so their automated software does the work.

The difficulty with encoding is fine detail and textures, that's where you start getting artefacts and have to manage it. If you have an older transfer from, maybe not the negative but a telecine transfer from an interpositive, it's usually not that hard to encode and you can just press a button and wait for this thing, with some exceptions. But the better film scanning gets, the better the encoding has to be to support that, to keep that quality. Otherwise you start getting weird looking artefacts.

Of course, it's not just the films that you have to deal with. If we take something like *Driller Killer*, which you encoded for Arrow Video, there's the film, a wealth of extras, and the grainiest source material imaginable...

The grain was far from the biggest challenge. That's a seamless branching title, so the two cuts of the film are stored as segments and stitched back together during playback, rather than the entire film being encoded twice. And, to complicate storage further, we also had an alternate aspect ratio (again with the seamless branching) and lengthy bonus features. Seamless branching is not as simple as just cutting the film into clips and stitching it all together.

So what is the timescale for you on a project like that?

What is the timescale or what would I like the timescale to be? Usually, the biggest delays in the process are waiting for bonus features to come in and that's the thing as a disc author/compressionist you're always beating the clock that way.

Driller Killer is an extreme example. What'll usually happen is they'll ship me either a drive with an Apple ProRes master, lightly compressed already. Sometimes if it's newer, like the recent restoration of *Phenomena* for example, I'll reject the ProRes, because if you have a very sharp transfer from the negative, even downscaled to 1080, the ProRes will have compression artefacts in it. They're not huge, they're not really visible, but I'll obviously want the very best starting point. In the case of *Phenomena* I asked to be sent the uncompressed, hard-drive-filling version. It came still in individual reels, in DPX format, uncompressed RGB, 12-bit, 4:4:4. The Blu-ray is Y/Cb/Cr, 8-bit, 4:2:0, so there are conversion steps involved. That then has to be reassembled, conformed, and synced-up before it's compressed. We also had two alternate cuts of the film which were then derived from that work.



For his encoding of the four-disc release of *Phenomena*, Mackenzie worked from uncompressed 12-bit DPX [Digital Picture Exchange] files

Once I have something that I can encode from, I find a little section of the movie that I think is representative of the content. That can be anything. If it's all come from one negative, for example, there's not much change in the technique you have to use to compress it. If you're doing something where part of it is from a negative, part of it is from a print... I wouldn't use the print section as a representative section.

You basically encode a little test section. Then you do comparisons, so you've encoded six versions and you take the same frame from each version and look at the differences side-by-side. Obviously that's looking at still frames; it's also important to look at it in motion. For that, I'll view them side-by-side, so I can see, for example, in version A, the grain is becoming kind of sticky around high contrast edges, while in version B, there's artefacting where the picture meets the letterbox bar. And you then have to come up with a strategy to tell the encoder what the best way is to look at this footage. Then you do the whole thing like that and, if you get really lucky, it all comes out okay. Usually, with something like *Phenomena*, it doesn't. Like I said, the better the film scanning, the better the restoration, the better I have to be. What I'll then do is do a side-by-side comparison with the master and find the bits that aren't looking so good, those that have to be massaged into shape. You can't always get everything perfect. It always involves compromise.

Looking at *Phenomena*, just the first disc in that set included the 116-minute cut of the film, four soundtracks, a commentary, the trailers...

The priority always goes to the feature. I think on *Phenomena*, Discs Two and Three have the movie at 38Mbps per second, which is pretty much the max. Disc One doesn't. Disc One has it at 35Mbps – to accommodate the extra DTS-HD MA soundtracks it had to be lowered a little bit.

Has there ever been a moment where you've been handed material and you've turned around and said that no matter what you do it's going to be a mess?

Yes – good compression can't make a bad master look good. All it can do is stop it getting worse.

Driller Killer: 'The grain was far from the biggest challenge'



Attack of the TV tools...

Can tweaks go to far?



'The culture of messing around with the picture is so entrenched,' says Mackenzie. 'I remember years ago looking at a TV and found it had a mode where it would blur out details, but only on flesh tones. My interpretation of that is that it was like a skin beautifying feature, a de-wrinkle device. And this is in a TV? That's the job, if you want to do it, of the post-production guys who made the movie.'

'But who am I to tell people how to watch their TV? If people like a particular process, I can't tell them that they're wrong – but I have to tell them that what they're seeing isn't what the director intended.'

Things are better with consumer displays than they've ever been, though. When you look back 10 years, you just couldn't get an accurate picture out of the displays that were around. The controls just weren't there. And now they are.'

But in most cases, we're working from good to great masters.

Some studios have been doing HD telecine transfers since the '90s. Mention HDTV to most people, and they think of flatscreen TVs, and think back to 2005/2006 when the tech was becoming common in the UK. But HDTV has existed in post-production and overseas for much longer; some studios were doing HD transfers on machines that were originally SD but modified for HD in, maybe, '94/'95. The driver there was the Japanese market, and MUSE Hi-Vision LaserDisc, which was way ahead of the curve. Since then, we've come a long way in film scanning. We've gone from telecines that worked off of picture tubes (fascinating – variations of John Logie Baird's original flying spot concept), to scanners with CMOS sensors that can capture so much more detail from the negative, without added noise. And displays have changed: what might have looked good on a small CRT studio monitor looks heinous when viewed on a 65in flatpanel now.

And some of these older masters are licensed out to other labels...

I think it's very fortunate that the Hollywood studios are willing to open their catalogues up to other companies who will give some of this stuff the attention it needs.

In one way, things are similar to how they were in the LaserDisc days, where specialist labels are being given the keys to the studios' vaults, and are allowed to handle their back catalogues on their behalf. I think we're almost back at that level, where studios can concentrate on what makes money for them, which is new blockbusters and streaming or whatever, and specialist companies handle the rest. It's a really great decision.

And I think the situation you have in the UK is really cool. The UK home video market is the envy of the world! It's amazing.

Originally when I got into Blu-ray I got a US player because they were out before the ones here. But I

never thought we'd be in a position where Region B was the best region to be locked into. If you look at message boards today, you see people in the US say: 'No! Another movie the Brits are getting on Blu-ray that we're not!'. It's quite amusing to see the shoe being on the other foot.

Have you had any difficulties with accessing archival digital materials due to compatibility issues with older file types?

No. Not really. I think the biggest issue is with videotape formats. For *Brain Damage* we got a master that had a gigantic videotape dropout in the middle. So we had to get a tape flown in from Florida and find a machine in New York that would read the D5 tape. We're not at the stage where it's impossible to find, but it took some effort, put it that way. So it's not really an issue with digital formats; with proprietary studio videotape formats, yeah, because someone has to maintain the machines.

With digital file formats, like Quicktime, AVI and so on, most are pretty well documented and it's easy enough to find the means to play them back, and I'm sure that'll still be the case in 20 years. The bigger danger is the media failing. Film, if you can shine a light through it you can see what's on it. If you have a hard drive and one of those tiny moving parts breaks, you're screwed.

We're all familiar with the concept of director-approved restorations on Blu-ray. But does that ever extend to the finished disc, the final encode?

Very rarely. I think it's a big blindspot of the industry because there are certain encoders that distort the look of the film, the colour, the lightness. When I encode something to Blu-ray I'm usually working off a 10-bit master. That has to go down to 8-bit for Blu-ray. That's not a huge drop in quality if it's done right; that process should not change the colour, just the amount of shades used to represent it. But there are some encoders that, depending on the file format you feed in electronically, have an impact – for example, there was one that used the algorithm that was designed for converting colour for SD not HD. The result is skin tones starting to look a little purple.

Sometimes if you compare the same film master encoded by label A, and compare it with the one done by label B, you'll see that one version looks quite a bit greyer and lighter than the rest, which is caused by encoding which doesn't respect the original gamma of the master. And if you're watching a high contrast film noir title, for instance, that can really change the impact. So yeah, it's a blindspot.

Some collectors are familiar with the work you've done for indie labels, and you recently tackled *Mulholland Drive* for StudioCanal, but have you done anything for larger Hollywood studios?

Not directly, but actually *Mulholland Drive* is owned by Universal in the US. And I've encoded a lot of

Prepping *Brain Damage* for its Blu-ray release required some detective work...



Fox's back catalogue for Carlotta in France. The independent Blu-ray industry is smaller than it looks from the outside and I think most of the studios are pretty friendly with each other. In some cases, Carlotta have asked the UK labels if they can just use my encode for their own release. That happened with the French release of *The 'Burbs*, although that kind of collaboration is rare.

It doesn't always work the other way around, though. Just look at what happened with *The 'Burbs* in the US... For the UK Blu-ray, when James [White] and I looked at the original master that Arrow was supplied with, it was an older transfer that showed the limitations of its era, and we asked if it could be re-done. For the Arrow release, the interpositive film element was scanned by Universal, and sent on hard drive to Deluxe in London, and then restoration work was done there. But then Universal released it in the US last year using the old transfer! Maybe that's just a case of the bigger studios not being aware that they themselves helped make a better version.

Looking back across everything you've worked on, is there anything that really stands out as a Blu-ray that you're really proud of?

I'm delighted with how *Mulholland Drive* came out – it's one of my favourite films, and the new 4K transfer of that is extremely difficult to compress. Before I mentioned that Blu-ray can produce a result very close to the master – I actually saw the film theatrically quite recently, and felt that the version I'd encoded for the UK Blu-ray was extremely close, despite Digital Cinema being more capable than consumer formats. So, I'm very happy with that.

What else? *Cinema Paradiso* is another one. Again, that's a case where it had been on Blu-ray before and it was... watchable; a normal telecine transfer with all of the grain taken out. To have it look like it does now ultimately was great. I'm happy to say that that just came out in the US, too. The subtitles we re-did because it probably grates to an American audience to have lines like 'Sod you, you bloody bastard.' That's not going to work.

And is there anything that you wish you could have worked on?

My biggest disappointments are some of the transfers of Disney's old animated movies. I don't agree with their process at all. I don't agree with the whole 'take the grain out' thing to make it look like the original animation cels. The intent presumably is to reproduce the drawings and take out the film medium. But the fact is that they are films, they were photographed onto 35mm. And honestly, aside from the ethics of making them look like they were shot yesterday, it looks weird. Those restorations use an animation-specific restoration process, where they'll essentially freeze the image and then recover the parts that are allowed to move (the cel drawings), meaning that the backgrounds are now entirely static, without any kind of film movement or grain. And I find that when I watch those, especially projected on a big screen, I'm now hyper-aware of any tiny change in the drawings, which as a result of



this digital process, stand out much more than they originally would. I'm not alone in that opinion, either – some very well respected animated filmmakers intentionally add slight wobble and grain to their digital productions, I imagine for similar reasons. Ironically, since we're talking about Disney, they themselves have added synthetic grain to some of their CG movies!

In an extreme example, taking an old master and slathering it in digital processing to try and emulate the look of one of those full-blown intensive restorations can be a disaster. Did you see the BD of *The Sword in the Stone*? It looks worse than the DVD!

Do you have a dream project?

I would love to work on a definitive Blu-ray boxset of all the Tex Avery cartoons. There's a French DVD set and there was an old LaserDisc set and all of them have problems of some sort. I don't even know what material exists for that stuff anymore. The MGM negatives, maybe?

Is there anything you're working on now that you can talk about?

Notable stuff? I've been working on the definitive version of *The Bird with the Crystal Plumage* (see p103). With movies like that, it's great to see them being re-transferred on modern equipment and restored. A lot of Italian movies previously existed in transfers done on outdated and/or not very well maintained tube-based telecines, which added their own noise to the picture, sometimes severely. And, any downstream attempts to sharpen the picture up during encoding would usually just exaggerate the noise. And any attempts to try and remove the noise would also remove the grain, or turn it into slush.

By comparison, the new transfers are done from the camera negative on a solid-state film scanner which gives a higher resolution, artefact-free image, so all you have is the film's natural grain, undisturbed.

What else is there? People ask me that and it's kind of hard to answer because the turnaround on stuff is so fast that you're really just concentrating on what's there that week. I know there's some cool stuff coming. I've just got the restored master for



Mackenzie's work takes him from David Lynch mindbenders (*Mulholland Drive*, StudioCanal) to classic '80s comedies (*The 'Burbs*, Arrow Video)

Ronin's director of photography Robert Fraise has approved a new 4K scan of the original camera negative for Arrow's August Blu-ray release

Arrow's upcoming *Ronin* Blu-ray and it looks amazing! I'm also excited about doing *John Carpenter's The Thing* later this year. That should be cool.

I'm interested to see how it compares to the Shout Factory Collector's Edition from the US...

I think Shout Factory did a scan of the IP [interpositive], which by definition can't be as sharp as going from the original negative. On the other hand, the advantage of scanning from the IP is that it already has colour grading decisions made for you. You'd need to ask Shout about the specifics of their version, because that's a fairly rare case where two different independent labels have each produced their own new transfer.

Has there ever been a time when a label has come to you with a film and a wealth of bonus material and you've had to tell them that it's too much for one disc?

On DVD, yes. But on Blu-ray, you have such capacity, to play with. With the best AVC encoder there is, you can cram a lot onto those discs. Especially when your bonus features are just talking heads. You can noise reduce that and slam the bitrate down.

There have been times where I've said 'You can't do this on a BD25, let's just go to BD50'. That's actually another misconception: the idea that a single-layer disc equals bad picture quality. It comes from the early days of Blu-ray where there were some bad encodes of bad transfers put on the market, which were on BD25s simply because the manufacturing for BD50s wasn't up to speed in the early days. Those discs looked bad because they were MPEG-2 encodes of bad transfers, not purely because they single layered. You can get really good quality out of BD25s. I did *Compulsion* for Signal One which is a brand-new 4K restoration, for example.

With regards to *Compulsion*, are there specific challenges with encoding black-and-white material as opposed to colour films?

No, I'd say black and white is easier. For colour, Blu-ray uses 4:2:0 chroma subsampling, which means that the coloured layers (called Cb and Cr) are half the resolution of the black and white luminance signal (called Y). Not only that, but as well as being half resolution, these coloured layers are also compressed more. So if you have a movie with very fine coloured grain, that can become dulled in the downrezzing and compression processes. You can tell the encoder not to compress the chroma as much, but this can then lead to compression artefacts in the luminance, which is far more important to human vision. In a black-and-white film, there's no colour data, and you're not fighting the limitations of 4:2:0 subsampling.

Have you done any work with H.265 encoding on Ultra HD Blu-ray?

With UHD Blu-ray and most of the independent studios I work with, we're kind of where we were with

Blu-ray in 2007, which is them being naturally sceptical. The UHD BD format also has fantastic potential, because H.265/HEVC is even more advanced and efficient than H.264/AVC, and we also have larger capacity 66GB and 100GB discs, and bitrates that exceed 100Mbps! I've done work with it, but nothing that's been released yet. Independent studios are saying, 'Is this really going to catch on? Only video purists will buy it.' I'm quick to point out that they had the exact same reservations about Blu-ray in 2006 – these things are always expensive at first – but it makes sense from their perspective because they're the ones putting up the cash. I hope that in time they'll start to see the benefit of it. But really, it comes down to consumers asking for it... well, I'm also a consumer, and I'm asking for it!

The other point they make is that the audience for more niche titles isn't there, that people with UHD players are buying mainstream titles like *The Smurfs*, *Chappie*, and so on. But that's how a new format launches, with Hollywood first and independents later. It looks to me like Hollywood studios look to recover money from titles that underperform at the box office, in the hope that early adopters will be pushed into buying them just to have something to watch. (As an aside, that's how I discovered one of my favourite films, which is Brad Bird's *The Iron Giant*, a box-office bomb that was one of the earlier Hollywood titles to hit DVD).

If one day you may be working on UHD Blu-rays of the same type of titles you currently do for indie labels, do you see HDR being an issue you'll have to deal with?

The labels I work with are mainly dealing with older titles, which predate a means of HDR delivery. However, a 35mm negative usually has enough detail in the highlights to create an HDR presentation, so many of these older titles can be graded for HDR. It then becomes a question of ethics and filmmakers' intent. HDR would radically change the look of these older films (although you could say that thanks to modern display technology, that's happening anyway). There are some films where it's easier to make the case for than others – for example, a film like *The Wizard of Oz*, which always had that technological showcase side to it thanks to its use of Technicolor – Warners did a 3D conversion of that, and I can see why the people in charge felt that it wouldn't be too radical an idea.

I think that for the indie labels, HDR may be less of a selling point. What that leaves is the wider colour space, which we now have in the home. For a film like *Suspiria* – which I'll be doing on Blu-ray for Synapse in the US – that's a case where you'd absolutely benefit from a colour space wider than normal HDTV, which might in some cases compromise the very saturated colours of that film. Again, that's a case where you can say, 'Well, that was always meant to be a visual marvel, so is it messing with the director's intent to do an HDR pass?'. Well, the director is still alive, the cinematographer's still alive, so you can ask them! Assuming they're open to sitting in a grading suite and look at their film for the hundredth time... ■



On an HDR regrade of *Suspiria*: 'Well, the cinematographer's still alive, the director's still alive, so you can ask them!'

1959 thriller *Compulsion* was released by Signal One on Region B Blu-ray, from a 4K restoration, last year



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Digital Copy

Mark Craven loves the lack of region-coding on Ultra HD Blu-ray discs. Now he wants everything to arrive at the same time. What next? The moon on a stick?

REGION-CODING ON DVD and Blu-ray was – and remains – a pain. Enthusiasts have long fudged it by adding a multi-zone/multi-region deck to their setup, but that doesn't get around the fact that there's still importing of titles to be done. In an ideal world, all regions would have the same disc release (the good one, with all the extras and the director-approved transfer), and there'd be no need to ship in movies from abroad at all.

The decision by the Blu-ray Disc Association to remove region-coding from 4K discs was therefore welcome. Any disc you buy, be it a blockbuster title from the US or one of these kooky German releases (*The Texas Chainsaw Massacre* in Auro-3D, anyone?) will spin on your deck. Of course, just to remind you of what life used to be like, you may find any accompanying Full HD disc still locked to another region. Oh well.

Why are we waiting?

Even ignoring that, the situation isn't perfect. During the first year or so of the format's life, there have been discrepancies between the release times between one region and another. And, generally, it's been this: US shoppers are getting a head start on their UK counterparts. This just encourages die-hard collectors to import. Maybe the BDA knew what was coming all along.

One heinous time-lapse between US and UK releases concerns *Fast & Furious 8*, which is out now Stateside but not due here until October. I can't see the logic behind that at all – surely Universal's UK arm has pointed out that it will affect its sales potential – and maybe the release will be brought forward.

More typically, US releases are just a few weeks early, but it's still a problem. You want shiny new

movies for your cinema – do you wait, or pay the premium to grab them on their day of release thousands of miles away?

It's also a bit of an issue for Team HCC when it comes to putting our Playback section together. With the majority of film studios still not geared up to sending out pre-release 'checkdiscs' of 4K titles (we're not pirates – you can trust us...), many of our reviews are written after viewing finished copies that are by that time on-sale in UK shops. But we know from speaking to readers that many of you will have imported these discs and watched them already.

There are 4K discs that we are picking up from the US in advance of UK release. We grabbed *Billy Lynn's Long Halftime Walk* (pictured) in February, for example, because we wanted to sample its 60fps encode and couldn't wait until Billy's walk brought him to Blighty in June.

Should we just be importing any title from the US that's available ahead of the UK? It's something we've considered, but ruled out. There are still differences between packages concerning soundmixes and bundled 3D titles, and – more importantly – we're aware that not every HCC reader with a 4K setup is shopping abroad. In some instances, we'd be reviewing discs that you can't physically buy over here for quite some time.

The situation at present is that our Playback section continues to compartmentalise 4K reviews ('cos we know that we're not all watching UHD Blu-ray yet), and predominantly features UK releases with some US versions mixed in.

But, personally, I won't be waiting until the Autumn for *Fast & Furious 8*. That sucker is on pre-order. Hurrah for the death of region-coding! ■

Do you import 4K Blu-rays from abroad or wait for the UK release? Let us know: email letters@homecinemachoice.com

Mark Craven is embarking on a modern art project using all the Full HD Blu-rays that come supplied with his Ultra HD disc purchases.





Film Fanatic

Anton van Beek believed the days of importing discs from abroad because of UK censorship were behind him, until he gave the *John Wick: Chapter 2* Blu-ray a spin...

FILM CENSORSHIP, HUH? To be completely honest, I didn't think I'd ever be writing about the subject again. After all, once the BBFC (British Board of Film Classification) passed Jörg Buttgerit's infamous *Nekromantik* and its sequel completely uncut for release on Blu-ray, you really have to wonder just what it would take to make it reach for the scissors again. But that was before two recently, completely unrelated, events have made censorship a hot topic all over again.

The first concerns *John Wick: Chapter 2*, which recently made its DVD, Blu-ray and Ultra HD Blu-ray debut on these shores (you can check out our review of the 4K version on p105 of this issue). For those of you who don't regularly spend time perusing the BBFC Insight reports on the organisation's website, this highly entertaining shoot-'em up sequel was missing 23 seconds of footage when it arrived in UK cinemas this year.

According to the Cuts Information section of the film's BBFC Insight report (www.bbfc.co.uk/releases/john-wick-chapter-2-film), cuts occurred because: 'Company chose to reduce bloody injury detail in a suicide scene in order to obtain a 15 classification. Cuts made in accordance with BBFC Guidelines and policy. An uncut 18 classification was available.'

The key thing to take away from this is that UK distributor **Warner Bros. opted to release a censored version into cinemas with a lower certificate in order to try and increase box office takings**. This is a tactic that has become common with action movies over the past decade – the consolation being that where this has happened, the films have then gone on to be released uncut on Blu-ray (allowing the distributors to further push the discs by promoting them as 'Extended Harder Cuts' and the like).

The trouble was, Warner Bros. didn't pursue this route with *John Wick: Chapter 2*, choosing to put out the censored 15-rated version on DVD and BD as well. This also meant that these discs couldn't include the chat-track (from Keanu Reeves and director Chad Stahelski) as it would no longer marry up to the film.

What makes the situation even more bizarre is that the uncut version of *John Wick: Chapter 2* has been released simultaneously in the UK on Ultra HD Blu-ray. Whether done as a way of helping drive 4K disc sales or simply because the studio didn't want to fork out for a new 4K master of the cut version is something we'll probably never learn – although I know which of the two possibilities I believe.

Anyway, the lesson here is that UK Blu-ray buyers should perhaps skip the local release of this flick and either import an uncut BD from abroad, or give their system a 4K upgrade to enjoy the uncut Ultra HD platter.

'Watch it, melon farmer!'

The past month's other censorship story saw Sony Pictures try to launch a new 'Clean Version Initiative', offering edited family-friendly versions of some of its films. I say 'try to launch', because it soon drew the wrath of the Director's Guild of America; not to mention Seth Rogen and Judd Apatow, both of whom took to Twitter with statements that wouldn't make it into any of the studio's clean versions...

This has left Sony's plan in limbo while it works out what to do next. Let's just hope that's the end of it – or if not, that the studio at least lets the filmmakers come in and oversee new dubs, as Alex Cox did so memorably with the hilarious TV edit of his 1984 cult classic *Repo Man* ■

Does film censorship affect your Blu-ray buying decisions? Let us know: email letters@homecinemachoice.com

Anton van Beek hopes Sony will also launch a 'Dirty Version Initiative' that dubs swearing onto what were previously family-friendly films.



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In The Mix

Jon Thompson believes commercial cinemas only succeed when they offer an unrivalled experience. And super-bright, projector-free screens may just be the industry's saviour

I WAS GOING to cover a different topic this issue, but the reaction and interest from the cinema industry to some new technology has caught my eye. As a good cinema experience should.

We traditionally think of commercial cinema as a projector and a screen. But for the first time that twinkling light from the back of the auditorium could be about to despair.

June saw the annual European shindig for the cinema industry, CineEurope. It's an event that covers everything from cutting-edge tech to increasing profit margins from popcorn.

HDR and 8K are the buzzwords at the moment. **Cinemas are large enough to really benefit from 8K**; couple that with higher brightness and you get one hell of a wow factor. But HDR in cinema is not easy. Projectors can't get anywhere near the brightness needed. Cinema should be, for normal projection, 48 nits, yet the majority I have seen and measured are 28 nits or less.

Still, as a commercial cinema is a dark room with controlled light levels and a screen filling your field of view, 1,000-2,000 nits would be blinding, and the change from a dark scene to a bright scene would cause massive fatigue and headaches. So in HDR projection, you don't need these massive light levels, but you do need more than 30 nits.

So how to solve this? Back to CineEurope, and 'Active' screens. Samsung has one, as does Sony. To me, the Samsung system looked much like a large TV, but Sony's (dubbed CLEDIS) looked like real cinema, and the reaction at CineEurope was overwhelming. Extra demos were put on to fill demand.

'It flips the traditional approach to the cinema experience and business model upside-down,' says The International Union of Cinemas president Phil Clapp. 'It's different from anything we've seen before.'

The Sony screen is revolutionary. For starters, it's built to last. Many cinemas under-run the projector lamp so it lives longer – a bit like a pub watering down your beer. Yet Sony says that even if you operate a CLEDIS screen at 100 per cent power, 24 hours a day, 'the lifetime expectation is 87,000 hours, compared to the 30,000 hours of laser.' Tally that to the typical projector use of 3,500 hours a year, and you're looking at a 25-year lifespan.

CLEDIS stands for Crystal LED Integrated Structure. Readers may remember a Crystal LED TV prototype from a few years back – a self-emitting display using ultra-fine LEDs mounted on the panel surface. It's been reborn for the commercial world.

The tech, suggests Sony, offers brightness levels of 20 times those of conventional projection systems and a contrast ratio of a million to one – figures that would eliminate any problem displaying HDR, HFR (High Frame Rate) and 3D content, with none of the artefacts from laser speckle that are a major issue on screens with any gain. Displays with 8K or greater resolution can be constructed, 16 times the pixel count of most cinemas today. The CineEurope screen was 8K, 33 feet by 14 feet.

This could be a bigger step-up in cinema than the coming of digital, the premium experience needed to ignite much-needed excitement in the industry – as the one thing you can't do at home is have a 10m-plus screen. If that screen gives you a true cinematic experience, with HDR and never-before-seen super-resolutions, then it might be worth the ticket price. West End theatre shows have people queuing for ticket returns. Why? It's something you can only see in the West End. Cinema needs to take a leaf from that book ■

*Would you pay more for a 'premium' cinema experience?
Let us know: email letters@homecinemachoice.com*

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at [@johnnyfocal](https://twitter.com/johnnyfocal)





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Feedback

Got an axe to grind? Need to comment on current technology? Want to share your knowledge with our readers? **Team HCC** is here to help

I need Atmos, pretty please

Okay – I am going to ask the question if no one else will. Where the heck are the low-cost, decent-looking Dolby Atmos speakers?

Yes – you heard me! As a regular reader I note the regular comments on Dolby Atmos tracks and capable receivers. I even have one myself (a Marantz SR7009) but Atmos speakers? Cue tumbleweed. Just what is going on?

There is the Onkyo SKH410 at £130 [per pair] but to be frank am I alone in thinking it's rubbish looking and lightweight? The KEF R50s are £600 per pair – nice but expensive. PSB's Imagine XAs are £350 per pair – again expensive. ELAC at £250 per pair? Just ugly.

With bookshelf speakers offering great performance at a low price, such as the Q Acoustics 2020i and Mission LX2 at £160, why are we stuck with such poor choice? Are Dolby and speaker manufacturers intent on killing the format?

Who wants to get a small box to place on their floorstanding speaker that arguably costs as much if not more than the floorstander when first purchased? And for a speaker whose frequency range by default is limited?



I'm not making the Atmos step because I do not want to spend a fortune on something I know aesthetically I will not be happy with (nor will her indoors). And that's before I even hear them!

Are any manufacturers considering a simple angle mount (much like a laptop stand) to allow a small bookshelf speaker to be pressed into service to experience Atmos, allowing all us home cinema bods to use conventional and, more likely, better-built speakers?

Please please please impress upon those manufacturers you deal with that they need to address this market ASAP. Otherwise I for one will be eschewing newer models for older –

PSB's Imagine XAs – expensive at £350 a pair?

better-performing – models without the features I cannot afford to 'try'.
Paul Roebuck

Mark Craven replies: The Dolby Atmos speaker market has been a bit of a slow-burner, hasn't it? It could certainly do with more variety when it comes to pricing/options.

I think I've written previously that, obviously, speaker companies will only invest in product development if they know they will find a welcome market. It's therefore not surprising that stereo hi-fi speakers come and go at an

Why no 3D with 4K Blu?

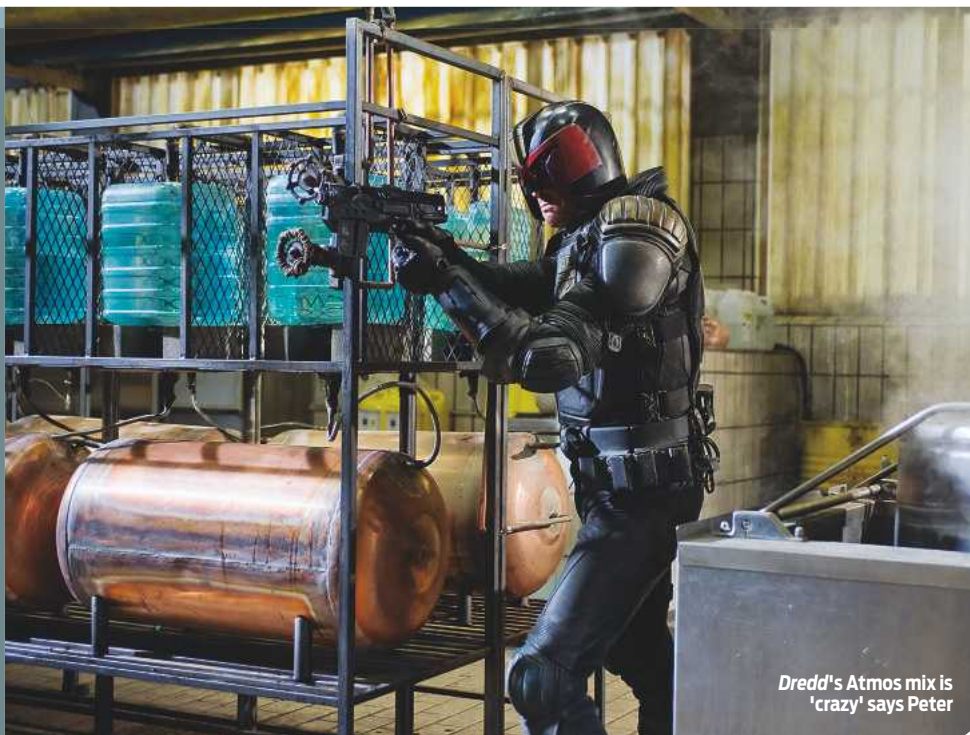
3D seems to be on the way out or so I have read in various places including your great mag, but is it? Most of the big Summer blockbusters are 3D.

What will kill it is the lunacy with sales techniques. Of my growing UHD collection how many discs contain 3D? None! I know there are no UHD 3D discs but why do I get UHD, Blu-ray, DVD in the box but not 3D? Why on Earth would I want a 4K disc and a regular Blu-ray disc? Wouldn't it make more sense to put the 3D in there instead?

To go off topic, I just imported the 4K of *Dredd* from the US. It's definitely my new demo disc: the Atmos soundtrack is crazy, the HDR picture is crisp and Karl Urban IS Judge Dredd!

Peter Brennan

Anton van Beek replies: Some US 4K BD releases stock the 3D version too. But not in the UK. Annoying, isn't it?



Dredd's Atmos mix is 'crazy' says Peter

alarming rate (to cater for the big two-channel market) and Atmos speakers (which have a much smaller buying audience) perhaps get second fiddle when it comes to R&D. Furthermore, manufacturers need to know that they can find retailers to stock them (unless they pursue a direct sales model) – and there's only so much shelf and warehouse space around.

Simply angling a conventional bookshelf speaker to reflect off your ceiling goes against the Dolby Atmos rulebook. Certified Atmos speakers utilise high-frequency filtering, that Dolby insists works to delocalise sound information – essentially fooling your brain into perceiving it's coming directly at you from above. That's not to say you can't wire up your own speakers into your AVR's Atmos channels, place them carefully, and see what effect you get...

I agree with you completely that spending more on an Atmos speaker than a front-facing floorstander or standmount can be galling. Do note, though, that the likes of KEF's R50 and PSB's Imagine XA are primarily designed to be used with other speakers in their specific ranges, and pricing is generally in line with those models.

We do, perhaps, need more 'affordable' yet Dolby-certified options. Onkyo is stealing a march in this regard. You may not like how the SKH410s look, but they get the job done.

Hold on a while and you'll find KEF launching Atmos models for its Q Series, plus an Atmos-ready sub/sat system from Focal. So the range of choice is growing.

Dolby is certainly not content on 'killing the format'. It's been pushing it hard for a couple of years now. But it can only rely on speaker manufacturers, Blu-ray distributors and AVR brands to do the groundwork!

To project and serve

I have dipped in and out of hi-fi and home cinema ever since the 1980s when my Dad bought our first Technics separates hi-fi system, some big Jamo speakers and a CRT television with L & R surrounds. What an excited little boy I was. Having been out of it for a while I'm now very much back in, addicted to HCC and need your help on an upgrade path.

I have two systems. The first in the living room is for everyday TV, casual movies and music. The second in the master bedroom is for big movie nights and occasional music. I'm under orders in the living room to keep things cable/clutter free and minimally obtrusive. In the bedroom, I have free rein.

The kit in the living room is: Pioneer PDP-4270XD plasma; Virgin TiVo box soon to be V6 box; Apple TV 4th Gen (plus MacBook Pro); Sonos Sub; Sonos Playbar; two Sonos Play:1s; Netflix 4K subscription; Spotify Premium.

★ Star Letter...

Give me ceiling speakers!

I will be shortly moving and will have the opportunity to upgrade to Dolby Atmos. However, due to space limitations I have decided to have my additional speakers in the ceiling. I have looked but I don't believe you have ever reviewed in-ceiling speakers for Atmos use? If you have could you please let me know which issue and if you haven't is there any chance of a future feature?

Steve Smalley

Mark Craven replies: You're right: we haven't reviewed in-ceiling speakers (for Atmos or otherwise). This is mainly due to logistical reasons, and because we've had plenty of regular speaker systems to audition. However, as Atmos becomes more widespread, in-ceiling (and in-wall) models become more attractive, so look out for us covering this area in more detail in forthcoming issues.

What we can say in the meantime is that in-ceiling speakers work very well for Atmos – as well as being a neat aesthetic solution. Many of the high-end installs we feature use in-ceiling models.

As a general rule, look for units that are timbre matches for your own speakers if

possible. So if you have KEF speakers, start with KEF in-ceiling models.

And popular brands like KEF, Bowers & Wilkins, Monitor Audio, etc, are fair places to start, as all have extensive ranges.

In-ceiling models needn't be expensive, but 'full-range' models with decent-sized mid-bass drivers (6in, perhaps) are preferable, as Atmos audio often likes to throw mid-range information up high, and not just higher-frequency FX.

The good news is that you can perhaps be a little less critical when it comes to assessing performance, as your Atmos height speakers will always be used in conjunction with the rest of your array, rather than listened to on their own.

Star letter-writer Steve nabs the acclaimed comic book blockbuster *Logan* on Blu-ray, featuring both the original presentation of the film and an exclusive black-and-white 'Noir' version. *Logan* is available to own on 4K/Ultra HD Blu-ray, Blu-ray, DVD and Digital Download, courtesy of Twentieth Century Fox Home Entertainment.



I want to go 4K HDR in here with a maximum 49in TV (Sony KD-49XE9005?). My old Pioneer with one single HDMI (still a fabulous picture to my eyes) can't even pass through Dolby 5.1 to the Sonos 'bar via optical. I then want to add a 4K BD player (Oppo UDP-203). I have to settle for Sonos in 5.1 configuration here due to ease of use and a tidy appearance.

In the bedroom I have: a B&W HTM 61 S2 centre speaker; seven B&W M1s for surrounds (front height 7.1 configuration leaving one spare); a REL T5 sub; a Pioneer VSX-LX53 AVR and BDP-LX54 Blu-ray player; Apple TV; and an Allcam matt-white 133in 16:9 screen.

I can't justify the expense of the 4K route here (new 4K AVR, second UHD Blu-ray deck and a PJ) so instead want to complete the Full HD setup. I want big boy L/R speakers (B&W 683 S2s?). I don't have the option of rear surrounds hence the front height configuration. The sub is on the blink having, after a move, mysteriously become almost inaudible on max settings, so that needs replacing. I'm stuck on an HD 3D projector (Sony VPL-HW45ES?). It will need to throw the picture from a bedside table position to the 133in motorised ceiling-mounted screen which is 9-10ft away from the viewing position

in bed. The screen seems massive but as it was a freebie, I couldn't turn it down. I don't own a single 3D disc yet but it seems a shame not to take advantage of my current 3D-capable AVR and BDP.

The temptation is, of course, to take it all up into my loft conversion (currently a dumping ground) and go 4K Atmos... Oh the agony. Please help.

J Bolton

Mark Craven replies: Okay. So you need a Full HD 3D projector to work in your bedroom setup. And, assuming the bedside table is off-axis, you want one with vertical and horizontal lens shift. That narrows down the field somewhat. You suggest Sony's VPL-HW45ES, which is available for around £2,000. However, having looked at its throw distance specs, you won't be able to fill that 133in screen from your current viewing position of only 9 or 10 feet.

So, are you wedded to the idea of having that screen, which you admit 'seems massive'? It may be that this is a freebie that you can afford to turn down. Opting for a smaller screen may be a better fit aesthetically in your room and will work better with your chosen projector. The

VPL-HW45ES will fill a 100in diagonal screen from distances between 3.0m and 4.79m (courtesy of its 1.6x zoom), so with such a screen would co-operate with your 10ft throw distance. It's a fine projector, too, with excellent shadow detailing (set the lamp to Low) and Full HD sharpness.

An alternative projector suggestion would be Epson's EH-TW7300 (£2,200), which also has the vertical/horizontal setup flexibility you need and a big 2.1x zoom. Again, it won't reach the edges of your 133in megascreen, but it is also able to take a 4K HDR Blu-ray signal (which it then downscales and upscales to 4K), so you could move the 4K deck you're adding to your living room upstairs for movie night (you wouldn't be able to feed HDCP 2.2-protected content through your Pioneer AVR, though). If both this and the Sony are too pricey, you could perhaps step down to Epson's EH-TW6700, which drops the 4K feed skills of the EH-TW7300 and reduces lens shift and zoom a touch, but remains well-specified.

Adding floorstanders to your M1 system will certainly beef up the size and heft of your front soundstage. So if you've got the space, go for it.

As for your living room system, are you absolutely sure that a 49in screen is the biggest you can accommodate? Many brands have appetizing TV ranges that introduce



Involvement Audio's Surround Master processes stereo into multichannel

superior picture performance at larger sizes. and when it comes to 4K HDR, you'll want a display that really immerses. Maybe get your tape measure out again...

Master of surround?

Fascinating and informative feature on the BBC's *Dr Who* broadcast with binaural sound in your July edition [HCC #274].

However, can we spread the word amongst your readers that you don't have to sit with a pair of clammy headphones on in this hot weather! I listened to the amazing spatial soundtrack with Involvement Audio's 'Surround Master' that you featured around 18 months ago [HCC #256], and the effect was awesome.

Plugged into my aging Sony amp with its 5.1 inputs, the Surround Master spread the

standard stereo feed from my Sky Q box & Panasonic TV around the room in such a ghostly way that I could almost feel the cold draught whistling around the old house.

I must thank *Home Cinema Choice* for alerting me to this great piece of kit. It has transformed my listening pleasure to the extent that I now use it for 99 per cent of my TV time!

Roy Morris ■

Contact us...

Write to HCC, AV Tech Media Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent, TN8 6HF, or email us at letters@homecinemachoice.com. Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

WIN! Great Blu-rays up for grabs...

Just email your answer to Competitions@homecinemachoice.com to be in with a chance to win



American Gods: Season One

The absorbing new fantasy series *American Gods* comes to BD, DVD and Digital Download on July 24, courtesy of StudioCanal. To be

in with the chance of winning one of five *American Gods: Season One* Blu-rays, simply answer the following correctly...

Question:

American Gods is based on a novel by which British fantasy author?

Answer:

- A) Terry Pratchett B) Neil Gaiman
C) China Miéville

Email your answer with '*American Gods*' as the subject heading – and don't forget to include your postal address!



Get Out

Jordan Peele's *Get Out* – the year's most talked about horror film – is now available to own on Digital Download, followed by DVD and BD on July 24.

To celebrate the release we've joined forces with Universal Pictures Home Entertainment and have five *Get Out* Blu-rays up for grabs!

Question:

Get Out star Michael Kalouya played the character 'Tealeaf' in which cult TV comedy?

Answer:

- A) *Psychoville* B) *The League of Gentlemen*
C) *The Mighty Boosh*

Email your answer with '*Get Out*' as the subject heading – and don't forget to include your postal address!



Kong: Skull Island

See the origins of one of the most powerful monster myths in *Kong: Skull Island*, available now on Digital Download, followed by Blu-ray™, 3D Blu-ray™, 4K Blu-ray™ and DVD

on July 24. To celebrate, we are giving five lucky readers the chance to win a copy of the film on Blu-ray.

Question:

True or false: *Kong: Skull Island* was filmed on location in Vietnam, Hawaii, and Australia?

Answer:

- A) True B) False

Email your answer with '*Kong: Skull Island*' as the subject heading – and don't forget to include your postal address!

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- The editor's decision is final.
- Comp winners' info available on request.
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Mark Craven HCC March 2017



SB16 Ultra



PB16 Ultra

karma

k a r m a - a v . c o . u k

Certified: AV-Holic!

HCC reader **Calum** has moved his home cinema into a purpose-built garage conversion, partnering a much-loved Pioneer Kuro with a Sony projector. Fire up the Batmobile!



Recent additions are the REL sub and Pro-Ject turntable



An advantage of converting a garage space is that the workflow allows for cabling (such as power and HDMI for the projector) to be run in-wall/in-ceiling



While building the screen wall, a recess was added so Calum's Pioneer Kuro could be mounted without interfering with the drop-down projector screen



Introduce yourself...

Calum Watson, 48.
I'm a senior charge nurse.

System kit-list:

I have two screens – a Sony VPL-HW40ES projector with Eyeline Pro 92in electric screen and my legacy Pioneer PDP43XDE plasma (which I'm very sentimental about and can't face replacing it – at the moment!).

My speakers are M&K Xenon26s for the front array, M&K M4T tripolar surrounds and a REL T7i sub. I added Onkyo SKH-410 Dolby Atmos speakers about 18 months ago. I'm using a Denon AVR-X4200 receiver. Sources include a Sony UHP-H1 Blu-ray player, Sony

BDP-S790 player for Region 1 playback, Sky+HD, Nintendo Wii U, Apple TV and a Pro-Ject Debut Carbon Esprit SB turntable.

What was the last thing you added to your setup?

Did a double whammy recently and replaced a REL Q150E with the new T7i – waited a long time for that, but what a difference! – and updated my Blu-ray source with the Sony UHP-H1. This has really improved 3D playback.

Are you thinking of upgrading anything soon?

The living room is due a new TV – I'm thinking OLED. So the cinema will get the cast-off, which means an upgrade to a Pioneer Kuro KRP500A. Still a great TV in my book!

What's your favourite bit of kit, and why?

The Sony HW40ES projector went in about eighteen months ago and it's fantastic! The sharpness and colours really blew me away.

It's quite a significant upgrade from a Panasonic PT-AE1000 that was in the cinema before. The motion handling and 3D playback make watching the bigscreen a real pleasure. It's way better than the local multiplex.

What movies do you use to show off your system?

The Dark Knight's armoured car scene really shows off the intense blacks and explosive sound of my system. Also any of the recent *Star Wars* flicks are impressive on the bigscreen.

For 3D it's got to be Marvel's *Avengers Assemble*. It really wows the punters.

And what are your Top Five favourite flicks?

Am I only allowed to choose five? I still love watching the movies I grew up with like *Alien*, *Jaws* and *Raiders of the Lost Ark*. *The Godfather* and *Bladerunner* have got to be in there, too.

Do you stream movies/TV from Netflix/Amazon/Sky etc?

No, not really. We have Sky and tend to record and watch stuff from that. We don't currently have Netflix or Amazon.

I typically get two or three Blu-rays every other fortnight as I much prefer the reproduction from disc as opposed to streaming – sound and picture is much better and I prefer to pay for that. We've purchased the odd movie from Apple TV but not for a long while.



Does the setup get a lot of use?

A fair amount. If you're looking for me you'll generally find me in there! Seriously though, it's used regularly as a family to watch the shows we love like *Doctor Who* and *24* on the bigscreen. We generally have a movie night most weekends. My best mate comes over every second Friday and I've seen us watch movies well into the 'wee small hours.'

What do friends/family think of the cinema?

Most are amazed that something like a home cinema can be housed in such a small space as a converted garage. This is my second go at it – my previous attempt featured in your magazine in about 2005, I think it was!

I've built up the kit over a fairly long period of time, but even back in the 'old days' with a good-sized TV and the sound running through



the stereo, it was magic when friends and family came over to watch a film.

The garage conversion was purpose-built to take the home cinema and now the experience is off the charts. Everyone thinks it's brilliant in its present form. Onwards and upwards! ■

Share your cinema system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips...

- 1. Go big.** Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
- 2. Get in focus.** Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
- 3. Let some light in.** While we tend to watch movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on

whatever lights are fitted. Avoid using flash wherever possible.

- 4. Be thorough.** Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.
- 5. Don't be shy.** Send a picture of yourself!

- 6. Show us more.** Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Now what? Email your images to letters@homecinemachoice.com with the subject heading 'AV-Holic', and provide your answers to the questions above – then we'll be in touch!



...And blag Denon's AH-MM200 headphones!

The kind people at Denon are giving away a pair of portable, over-ear headphones to our AV-Holic each month. The AH-MM200s, which typically retail for £120, feature 30mm triple-layer drivers, lightweight earcups and have been tuned to deliver a smooth, natural and faithful tonal balance. Two cables are provided – one with integrated controls and mic for portable use, another longer cable for home entertainment.



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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **BEAUTY AND THE BEAST** Disney works its magic on the iconic fairy tale **KONG: SKULL ISLAND** There's no monkeying around with this BD blockbuster **GET OUT** Invite this horror hit into your home **JOHN WICK: CHAPTER 2** Sharp-shooting sequel takes aim at 4K Blu-ray **THE SINBAD TRILOGY** Remastered Harryhausen classics & **MORE!**



Claws for thought...

Logan → Twentieth Century Fox → Ultra HD Blu-ray & Region B BD

A battered and bruised Wolverine makes his last stand in this thoughtful and sombre *X-Men* spin-off. Find out if he is still a home cinema hero as we take the *Logan* 4K Blu-ray for a spin on p104.

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

Gaston's flower-arranging class was reaping rewards...



Same old tale as old as time

New scenes and extra songs fail to add anything significant to Disney's live-action fairy tale



→ BEAUTY AND THE BEAST

When Disney first announced its plans to create live-action versions of its classic animated movies, it was accompanied by much wailing and gnashing of teeth from film fans who wondered why they were bothering. But with the provocative *Maleficent*, witty *Cinderella* and spectacular *Jungle Book*, the studio has shown a willingness to tackle familiar stories in refreshingly new and surprising ways.

Unfortunately, this live-action version of *Beauty and the Beast* doesn't have anything like the same impact. It's not just that the much-loved 1991 cartoon still feels fairly fresh in the mind; it's because that version had already offered a revisionist, feminist take on the original fairy tale.

With no other options available, all that director Bill Condon can do is produce a live-action tribute to the classic Disney 'toon, albeit a bloated one that expands on that version by around half-an-hour. But as none of the new scenes or songs stick in the mind, was it really worth the effort?

As for the cast, Emma Watson (Belle) and Dan Stevens (Beast) are likeable leads and can both carry a tune. However, the decision to make the CGI Beast look less beastly takes any real frisson of danger out of their early sparring.

The various enchanted objects that populate Beast's castle are still present and bring a host of recognisable voices to the film, but the elaborate revamps they have been given only serves to make them less expressive than their simpler animated

counterparts. The film's one real success is Luke Evans' villain Gaston, a swaggering parody of macho idiocy who steals every scene he appears in.

If this all sounds rather negative, then it's worth stating that Disney's live-action *Beauty and the Beast* is not a disaster. But given the choice of which one to watch, we can't imagine anybody choosing it over Disney's superior 1991 animation.

Picture: Shot digitally using Arri Alexa XT Plus cameras, *Beauty and the Beast* has made a seamless transition to Blu-ray. A top-tier 1080p encode by any standard, the 2.40:1 frame offers a window into a world of fully saturated colours, intricately hewn textures, warm flesh tones and inky black levels. Sequences such as the *Be Our Guest* musical number are nothing less than a feast for the eyes and demonstrate a clarity and richness that most other discs can only dream of matching.

Audio: *Beauty and the Beast*'s DTS-HD MA 7.1 mix is every bit the match for its extravagant visuals. While the musical numbers are the real stars of the show, the 360-degree soundtrack is active at all times, bringing locations like the crumbling west wing of Beast's castle to life through convincing use of the surrounds and a potent low-end effects.

Extras: A fair array of extras includes an optional overture and 'sing-along' mode for the film itself; a look at the table read; a behind-the-scenes doc; a featurette highlighting some of the female crew working on the film; behind-the-scenes vignettes for four musical numbers; an extended song; eight deleted scenes; and two music videos.

HCC VERDICT

Beauty and the Beast

→ Walt Disney → All-region BD
→ £25

WE SAY: A reference-quality Blu-ray presentation of a live-action update that is neither beauty nor beast.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Boss Baby

DreamWorks/Twentieth Century Fox
Region A/B BD → £25



This animated feature has two things going against it. First up, when it comes to a corporate take on baby-making,

Storks got their first and does it better. Secondly, while the story's first half-hour or so offers a fresh new take on sibling rivalry, it then gets bogged down in saccharine melodrama and loses all of its energy and ingenuity in the process. On a more positive note, the film looks absolutely gorgeous in 1080p (especially the more stylized fantasy sequences) and the DTS-HD MA 7.1 mix is no slouch either. Extras are plentiful, but there's little of any real depth for adult viewers to enjoy.



The Lost City of Z

StudioCanal → Region B BD
£23



Based on the true story of early 20th Century explorer Percy Fawcett, director James Gray's enjoyable film fittingly

feels like the product of another age itself thanks to its deliberate structural and narrative classicism. What emerges is a measured yet compelling mixture of traditional *Boy's Own* adventure storytelling and more contemporary attitudes that surprises and delights in equal measure. StudioCanal's Blu-ray serves up a lush 2.40:1 Full HD encode and richly layered DTS-HD MA 5.1 soundtrack. Modest extras consist of a short *Making of...* and three interviews.



Elle

Lionsgate → Region B BD
£25



Paul Verhoeven turns the rape-revenge thriller on its head with this provocative and wickedly funny flick. Isabelle Huppert stars as the divorced co-founder of a videogames

company who is assaulted in her home one afternoon by a masked man. But rather than contact the police she conducts her own investigation, with results that nobody could possibly see coming. *Elle* comes to Blu-ray with a deliberately diffuse 2.40:1-framed 1080p encode and an effective French-language DTS-HD MA 5.1 track. The only real disappointment is the Blu-ray's complete lack of extra features.



Black and white and red all over

Is it too early to call Jordan Peele's debut a genre masterpiece? We don't think so...

→ GET OUT

When African-American Chris (Daniel Kaluuya) agrees to spend the weekend in the country with his white girlfriend Rose Armitage (Allison Williams), visiting her wealthy parents, he can't help but feel nervous about how they will react to his presence. Despite being welcomed with open arms by neurosurgeon Dean (Bradley Whitford) and psychiatrist Missy (Catherine Keener), Chris is still left feeling uneasy by the subdued behaviour of their black servants. The next day, things get even more uncomfortable when Chris finds himself the centre of attention at a rather unusual family gathering...

Like George Romero's *Night of the Living Dead* and Tobe Hooper's *The Texas Chain Saw Massacre* before it, writer-director Jordan Peele's debut feature finds its horrors in reflecting the cultural neuroses of the United States at the time in which it has been made. As the synopsis above makes abundantly clear, the issue in *Get Out* is one of racial tension, with Peele taking several very real concerns of the African-American community and reflecting them back at his audience in a way that is smart, unsettling, imaginative, horrifying and funny.

A remarkably assured and effective debut feature, *Get Out* has one more thing in common with those horror classics mentioned above: it's an undeniable genre masterpiece. It also marks Peele out as a rare talent who should have a very bright future ahead of him. We can't wait to see what he does next.

Picture: It may not be the sort of encode that you'll use to show off your system to friends and family, but *Get Out* still receives a rock-solid presentation on



Blu-ray. Framed at 2.40:1, the 1080p image is loaded with fine textures in even the lowest light levels. Blacks are deep and inky. The colour palette may not be particularly flashy, but it is robust and accurately rendered at all times.

Audio: The Blu-ray's DTS-HD MA 5.1 soundtrack is an absolute joy. Despite the somewhat subdued nature of the first part of the movie, the mix always delivers an immersive ambient soundscape. And when it comes to crafting scares the soundtrack proves just as accomplished, with more expansive dynamic effects underscored by a rich bed-rock of room-filling bass.

Extras: Jordan Peele provides plenty of background info in his solo commentary for the film, and does the same duty on optional tracks for the disc's 11 deleted scenes and an alternate ending. Other goodies take the form of a nine-minute *Making of...* featurette and a five-minute Q&A with Peele and some of the cast. ➤



HCC VERDICT

Get Out

→ Universal Pictures → All-region BD
→ £25

WE SAY: Jordan Peele's modern horror masterpiece comes highly recommended on Blu-ray.

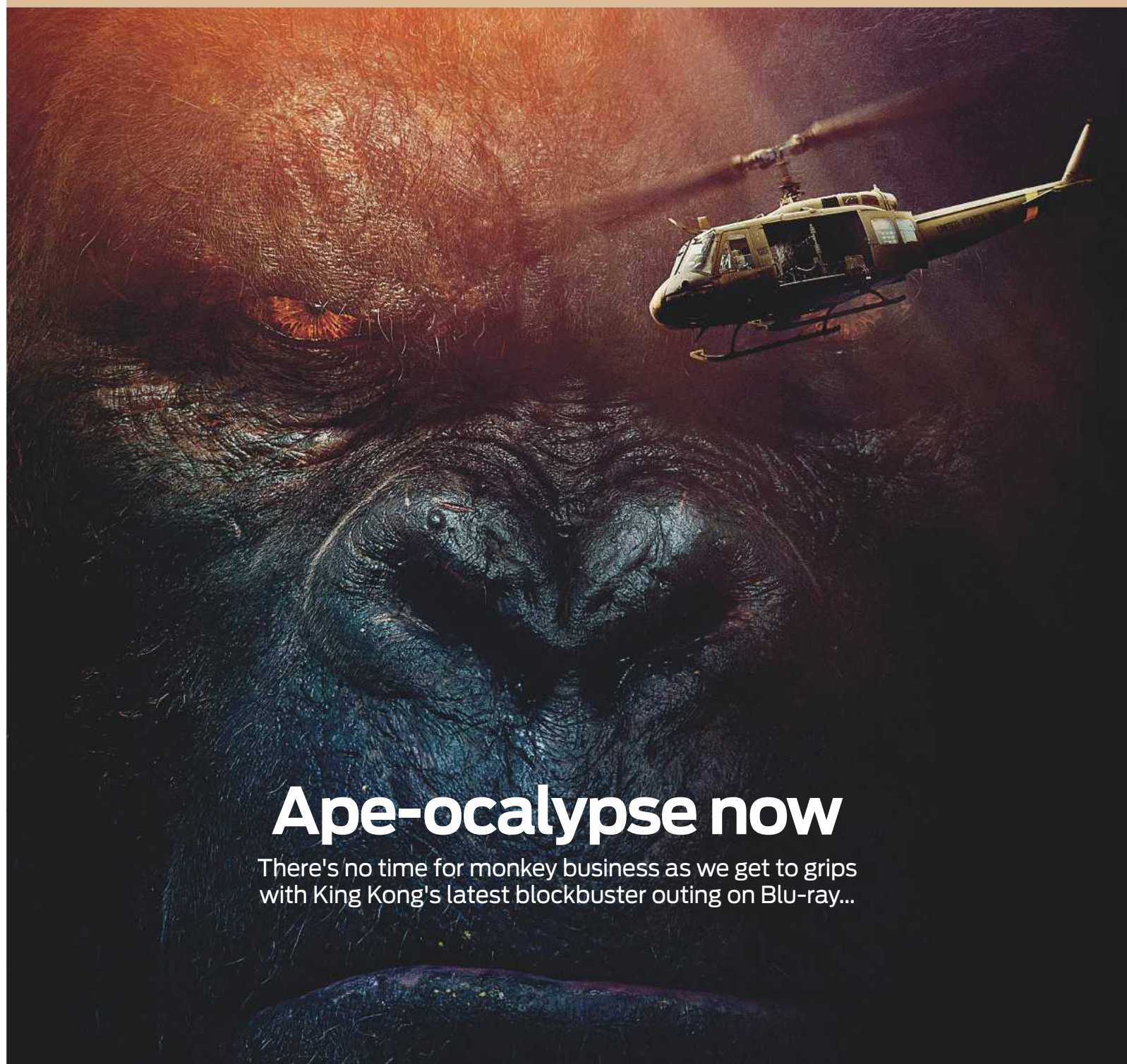
Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Ape-ocalypse now

There's no time for monkey business as we get to grips with King Kong's latest blockbuster outing on Blu-ray...

DEMO SCREEN...

Kong: Skull Island

Time code: 027.11 – 034.50



Metal mayhem: A main course of explosive LFE with a side of Black Sabbath's *Paranoid* are the order of the day as the 'choppers begin to drop seismic charges across the island.



'Is that a monkey?': A tree thrown through a helicopter cockpit marks the point Kong arrives to vent his annoyance. Cue this sensational colour-saturated shot of the giant ape silhouetted against the sun.



Gorilla warfare: Leaping into action, Kong starts punching helicopters out of the sky. The accompanying Dolby Atmos mix places you right at the heart of the dizzying, chaotic onscreen action.



King of the jungle: The Blu-ray's 2.40:1 Full HD encode regularly finds real beauty in the mayhem, not least in the sequence's richly-saturated slow-motion shot of soldiers fleeing the destruction.



→ KONG: SKULL ISLAND

At the height of World War II, a pair of fighter pilots – one American, the other Japanese – crash on an island in the South Pacific. The duo quickly resume their fight on the ground, only to be interrupted by a massive ape-like creature.

Skip forward to 1976 and Monarch agent Bill Randa (John Goodman) co-opts a geological survey mission launched to map a previously uncharted landmass known only as 'Skull Island', and hires a US military helicopter squadron under the command of Lieutenant Colonel Preston Packard (Samuel L. Jackson) to act as support. Also along for the ride are expert tracker James Conrad (Tom Hiddleston) and photojournalist Mason Weaver (Brie Larson).

While dropping seismic explosives on the island, the helicopters are attacked by a 100-foot-tall ape, leaving the survivors scattered. Conrad and Weaver soon encounter Hank Marlow (John C. Reilly), the downed US pilot from 1944, who reveals that Kong fills a vital role on the island, preventing an aggressive race of gigantic reptiles from escaping. But elsewhere, Packard – still smarting from the US military's defeat in 'Nam – vows to fight a war they can finally win, against Skull Island's gigantic protector...

Seemingly designed for those who thought that Gareth Edwards' majestic *Godzilla* (2014) was too 'slow' and didn't contain enough giant monster action, this second instalment in Warner Bros.' interconnected 'MonsterVerse' is a playful, fast-paced, action-packed creature-feature that refuses to sit still or take itself too seriously.

And rather than simply rehashing the familiar King Kong story, this new movie cleverly keeps the action confined to Skull Island with director Jordan Vogt-Roberts reshaping the material to his own ends. The result may lack the emotional core of the previous Kongs, but it's ultimately a lot more fun – feeling in many ways like the spiritual successor to the films of Ray Harryhausen.

Based on this outing, Kong is still the king of the movie monsters. Now, roll on 2020's *Godzilla vs Kong*...

War is hell. Especially when you're fighting a 100-foot-tall gorilla



Kong: Skull Island is the second part of Warner's 'MonsterVerse'



Director Jordan Vogt-Roberts marshals the mayhem on location (below)



Picture: *Kong: Skull Island*'s visuals are a breath of fresh air among the homogenous aesthetics of most modern Hollywood blockbusters. From wide sun-lit vistas to the billowing clouds of green gas that fill the giant boneyard (Chapter 9), the Blu-ray's AVC 2.40:1 Full HD encode boasts a striking colour palette. Flesh tones tend to push a touch hot at times, but given the lush setting, it seems fitting.

Detailing is excellent throughout the film, with the frame-filling close-ups of Kong's face showing just what the half-a-million polygons and 19 million hairs that went into his creation gives you. Black levels are solid and contrast is flawless.

The reference-quality 1080p encode also exhibits a fine layer of grain that helps distance the film from its digital origins, and gives it a look that feels more in keeping with its 1970s setting.

Audio: As good as *Kong: Skull Island* looks, it sounds even better. Right from the off, with the sound of fighter planes buzzing the various studio logos, the Dolby Atmos mix (or 7.1 TrueHD core) sucks you into the action and surrounds you with precision-placed effects that pan seamlessly around the enhanced soundfield.

Things only get better once the action moves to Skull Island proper. The sound of helicopters taking off from a boat (Chapter 2) registers impressive front elevation, while the subsequent flight through the storm (Chapter 3) gives a taste of the dynamic effects to come. But it's Kong's arrival (Chapter 4) that shows what the mix is truly capable of, offering up a whirlwind of surround effects and high-impact LFE. And from that point on the film – and its soundtrack – rarely lets up.

Extras: Director Jordan Vogt-Roberts provides an enjoyable commentary for the film. *Realising an Icon* (12 minutes) looks at the process of reimagining Kong, while *Summoning a God* (13 minutes) deals with the VFX used to bring him to life. *On Location: Vietnam* (six minutes) and *Tom Hiddleston: Intrepid Traveller* (seven minutes) focus on locations. *Through the Lens* (two minutes) is a gallery of Brie Larson's on-set photography with commentary from Vogt-Roberts. Rounding things off are four deleted scenes and a 'vintage' Monarch video (eight minutes) covering the events of the film.

HCC VERDICT

Kong: Skull Island

→ Warner Bros. → All-region BD → £25

WE SAY: Monstrously good AV ensures that this creature-feature is a real Blu-ray behemoth.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Injustice 2

Warner Bros. Interactive Entertainment
→ PS4, Xbox One → £50

Comic book superheroes are no strangers to pixelated pugilism, with Capcom and Marvel having enjoyed a strong partnership for more than a decade. But their presence in beat 'em ups received a pointed kick in the nethers on the release of *Injustice: Gods Among Us* in 2013. It featured well-known heroes from the DC stable, such as Batman, Superman and Wonder Woman, but with a grittier, less colourful spin (just like the Zack Snyder films). And it was good. Very good (unlike the Zack Snyder films, then).

Now the game has spawned a sequel and it is an improvement in every way, exactly as a follow-up should be.

At its heart, *Injustice 2* is a good, old-fashioned fighting game, with one character either side of the screen and a range of special moves that only the most dextrous can pull off. There's also a huge cast of heroes and villains to fight as and against, including longtime HCC favourite Swamp Thing.

There are plenty of options to take on foes both locally and online – although facing worthy human opponents in battle can be a thankless task if you're not a ninja master. That's where the story mode comes in, which is almost worth the purchase on its own. A wide-reaching narrative takes you through a great tale of heroism and sacrifice, with the first fight between Batman and Superman being particularly memorable in itself.

It also looks stunning – quite possibly the best-looking fighting game yet. Character details are jaw-dropping. And action runs at a solid 60 frames per second to ensure smooth, fast visuals.

To achieve this, the different versions run in different resolutions and, sadly, Xbox One fans get the dirtiest end of the stick. The Xbox One game runs at 1,600 x 900, the standard PS4 at a full 1080p, while the PS4 Pro version of *Injustice 2* gives you glorious 2,560 x 1,440. It also offers HDR 10 support on PS4, PS4 Pro and Xbox One S – very impressive.

Audio effects, especially the voice acting during bouts and the story mode, are particularly good. Ramp up your 5.1 system (or better) and you'll be rewarded with blockbuster bombast. Fighting games rarely hold back on the aural oomph and *Injustice 2* is no exception.



One-Eyed Jacks

Arrow Academy → Region B BD & R2 DVD → £25



Restored thanks to the efforts of Martin Scorsese's The Film Foundation, Marlon Brando's sole film as director can now be truly appreciated for the masterpiece it is. While the 141-minute cut found here still runs far short of the film Brando set out to make (his initial edit reportedly ran to eight hours) *One-Eyed Jacks* remains a Western unlike any other – and this Blu-ray's 4K restoration finally returns the film to its full visual splendour. Terrific extras include a fact-packed chat-track and the 1994 Channel 4 documentary *Marlon Brando: The Wild One*.



The Amityville Horror: Limited Ed. Steelbook

Second Sight → Region B BD
£23



For all of its claims of being based on a true story, the sad fact is that this classic fright-flick just isn't very scary. Sure, things go bump in the night and goo drips down the walls, but the real horror here comes from the responsibilities of home ownership rather than malevolent spooks. The film does at least brush up reasonably well on Blu-ray, with appealing Full HD visuals and a choice of atmospheric LPCM 2.0 stereo and DTS-HD MA 5.1 soundtracks. As well as a generous bunch of new interviews, the disc also includes an hilariously po-faced chat-track by parapsychologist Dr. Hans Holzer.



The Naked Civil Servant

Network → Region B BD
£15



Based on the autobiography of Quentin Crisp ('one of the stately homos of England'), this landmark 1975 TV biopic gave the late John Hurt one of the defining roles of his career.

Newly restored for Blu-ray, *The Naked Civil Servant* looks as good as new in 1080i, with the platter offering both the original 1.37:1 TV framing and an alternate 1.78:1 widescreen presentation that loses vertical information, but adds a little more at the sides. Best of the extras is a chatty commentary with Hurt, director Jack Gold and former Thames TV head of drama Verity Lambert.



'It's the eye of the tiger, it's the thrill of the fight...'



Stop-motion spectacles

Ray's Harryhausen's marvellous monsters are the real stars of these three adventure films

→ THE SINBAD TRILOGY

1958's *The 7th Voyage of Sinbad* finds the legendary adventurer (Kerwin Matthews) planning to settle down and marry Princess Parisa (Kathryn Grant). Luckily for us things don't go to plan and a scheming magician (Torin Thatcher) shrinks Parisa down to the size of a Barbie doll, forcing Sinbad to set sail in search of a cure.

Presumably the path of true love still didn't run smoothly for our hero as 1971's follow-up *The Golden Voyage of Sinbad* finds him (now played by John Phillip Law) still sailing the high seas in search of adventure. This time he's aiding the golden-masked Grand Vizier of Marabia (Douglas Wilmer) and sultry slave Margiana (Caroline Munro) in a race to find the fabled Fountain of Destiny before the wicked Prince Koura (Tom Baker).

By the time of 1977's *Sinbad and the Eye of the Tiger*, Sinbad (Patrick 'son of John' Wayne) is thinking of marrying yet another princess (Jane Seymour's Farah), only to end up embarking on a quest when her brother is transformed into a baboon by the evil Zenobia (Margaret Whiting).

Straight-forward and unpretentious in their ambitions and construction, the three *Sinbad* films still make for fantastic Saturday matinee viewing. And for that, thanks almost entirely lies with the late great Ray Harryhausen. It really doesn't matter who is playing Sinbad or how wooden they are, because Harryhausen's bestiary of stop-motion centaurs, troglodytes, dragons, animated statues, griffins,

giant walruses and sabre-tooth tigers are the real stars here; still imbuing the films with a genuine sense of surprise and excitement, as well as having personality to spare.

Picture: The set gets off to a fantastic start with a new 4K restoration of *The 7th Voyage of Sinbad*. Presented at 1.66:1, the imagery is noticeably more refined than that of the 2008 US Blu-ray, with enhanced detailing and a tighter grain structure evident throughout.

The 1.66:1-framed 2K restoration of *The Golden Voyage of Sinbad* is another success, highlighting the film's bold colours and intricate textures.

Sinbad and the Eye of the Tiger is another story. Comparisons with the 2013 Twilight Time US release indicates that this boxset's 1.85:1 encode stems from an older HD master that suffers from blown-out highlights and edge-enhancement. It's far from a disaster, but is still disappointing knowing that better-quality source material does exist.

Audio: All three films feature LPCM mono and DTS-HD MA 5.1 audio options. The sound quality across the board is excellent, with the biggest beneficiaries of the remixes being the scores – especially Bernard Herrmann's for the first film.

Extras: Each disc is absolutely loaded with extra goodies including interviews (both new and archival), image galleries, documentaries, Super 8 cut-down versions, isolated scores and trailers.

The boxset also houses a superb 78-page book containing new essays and 'oral histories' for each film, plus other Harryhausen-related bits and bobs. >



Harryhausen's monsters display more personality than their human co-stars



HCC VERDICT

The Sinbad Trilogy

→ Indicator → All-region BD & R2 DVD → £60

WE SAY: Despite the *Eye of the Tiger* issue, there's still lots to love about this feature-packed boxset.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



It's life Jim, just as we know it...

Glossy sci-fi horror can't escape the looming shadow of Ridley Scott's *Alien*

→ **LIFE**

When a probe carrying samples from Mars docks with the International Space Station, the small crew discover that they've got more than they bargained for. Amongst the soil they discover a dormant alien microbe that, once free from its confinement, starts growing at a rapid rate and hunting them down.

For all of the discussion in the accompanying extra features about *Life* being a serious piece of science-fiction based on genuine scientific principles, at the end of the day it's just yet another *Alien* clone. It's a well-made film, with excellent production values and a stronger cast (including Ryan Reynolds, Rebecca Ferguson and Jake Gyllenhaal) than you'd typically expect for this sort of B-movie setup. Yet the characterisation is still thin and the story beats as obvious as you'd find in any direct-to-DVD *Alien* rip-off. It also doesn't help that the design of the space beast (christened Calvin by school kids back on Earth) falls a long way short of H.R. Giger's nightmarish xenomorph, being little more than a CGI space octopus. Only the film's ending, which could have been ripped straight from the pages of a classic '50s horror comic, provides *Life* with anything close to a genuine sense of terror.

Picture: Shot digitally on Arri Alexa cameras, *Life* arrives on Blu-ray with a typically polished 2.40:1 Full HD encode. Although the flat lighting inside the International Space Station threatens to saddle the film with a uniformly muted appearance, the sheer amount of intricate detailing packed into the panels covering the walls ensures that there's a sense of depth and volume to each and every shot.



Shadow detail is also extremely well resolved, which helps lift the otherwise gloomy material another notch or two.

Audio: Even before Calvin starts causing havoc, the film's involving DTS-HD MA 7.1 mix does a convincing job of capturing the 'spam in the can' feeling of life in an enclosed environment in space. And things only get better when things start going wrong, with the catastrophic events of Chapter 13 in particular delivering wave after wave of persistent and powerful bass.

Extras: Sony's reasonable selection of extras consists of six deleted scenes (framed at 2.00:1 with post-production work still to be done), three in-character video diaries and a trio of informative featurettes looking at the challenges of recreating a weightless environment; the development of *Life*'s CGI monster; and the themes that the movie addresses.



HCC VERDICT

Life

→ Sony Pictures → All-region BD
→ £25

WE SAY: Excellent picture and sound help elevate this thoroughly average sci-fi horror flick on Blu-ray.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Dirty Dozen: Premium Collection

Warner Bros. → All-region BD & R2 DVD
£15 (HMV exclusive)



The UK Blu-ray debut of this hugely enjoyable WWII action flick proves to be a maddeningly inconsistent affair.

While much of the 1.78:1 1080p encode looks rather impressive, other shots are so soft that they appear to have originated from a dupe many generations removed from the original. The lack of any lossless audio options in favour of a bog-standard DD5.1 track is another bone of contention. Extra features, though, are excellent and include a commentary, four featurettes and an SD presentation of the 1985 TV sequel *The Dirty Dozen: The Next Mission*.



Battle of the Bulge: Premium Collection

Warner Bros. → All-region BD & R2 DVD
£15 (HMV exclusive)



What this lavish 1965 World War II epic lacks in historical accuracy, it makes up for in terms of sheer entertainment.

Fans of tank warfare in particular will find much to enjoy here, with the film's 2.76:1 Ultra Panavision photography delivering vistas packed full of mechanised weapons of war. The widescreen imagery is well served on Blu-ray with a detailed and authentically film-like 1080p encode; it's just a shame that the accompanying 5.1 soundtrack is a 'lossy' Dolby Digital presentation. A commentary and two archival featurettes are also included.



Casualties of War: Premium Collection

Sony Pictures → All-region BD & R2 DVD → £15 (HMV exclusive)



The best of the glut of Vietnam war movies that emerged from Hollywood in the late '80s, Brian De Palma's

harrowing masterpiece stars Michael J. Fox as a young soldier who ends up standing against his fellow troops when they kidnap and assault a local woman. In addition to an attractive 2.40:1-framed 1080p encode of the film's theatrical cut and powerful DTS-HD MA 5.1 audio, this BD also offers up a half-hour *Making of...* documentary and an interview with Fox. The accompanying DVD of the movie also houses four deleted scenes.



Donnie Brasco: Premium Collection

Sony Pictures → All-region BD & R2 DVD
£15 (HMV exclusive)



A thrilling reminder of how good Johnny Depp can be when he actually puts the effort in, this

1997 crime movie finds him playing a young FBI agent who goes undercover in the mafia, only to end up torn between his duties and the friends he makes there – most notably, his mob mentor Benjamin Ruggerio (Al Pacino). As with the 2007 US release, this good-looking Blu-ray houses the extended cut of the film, plus a couple of featurettes and a photo gallery. However, this UK release also includes the theatrical cut (with a chat-track) on a bonus DVD.





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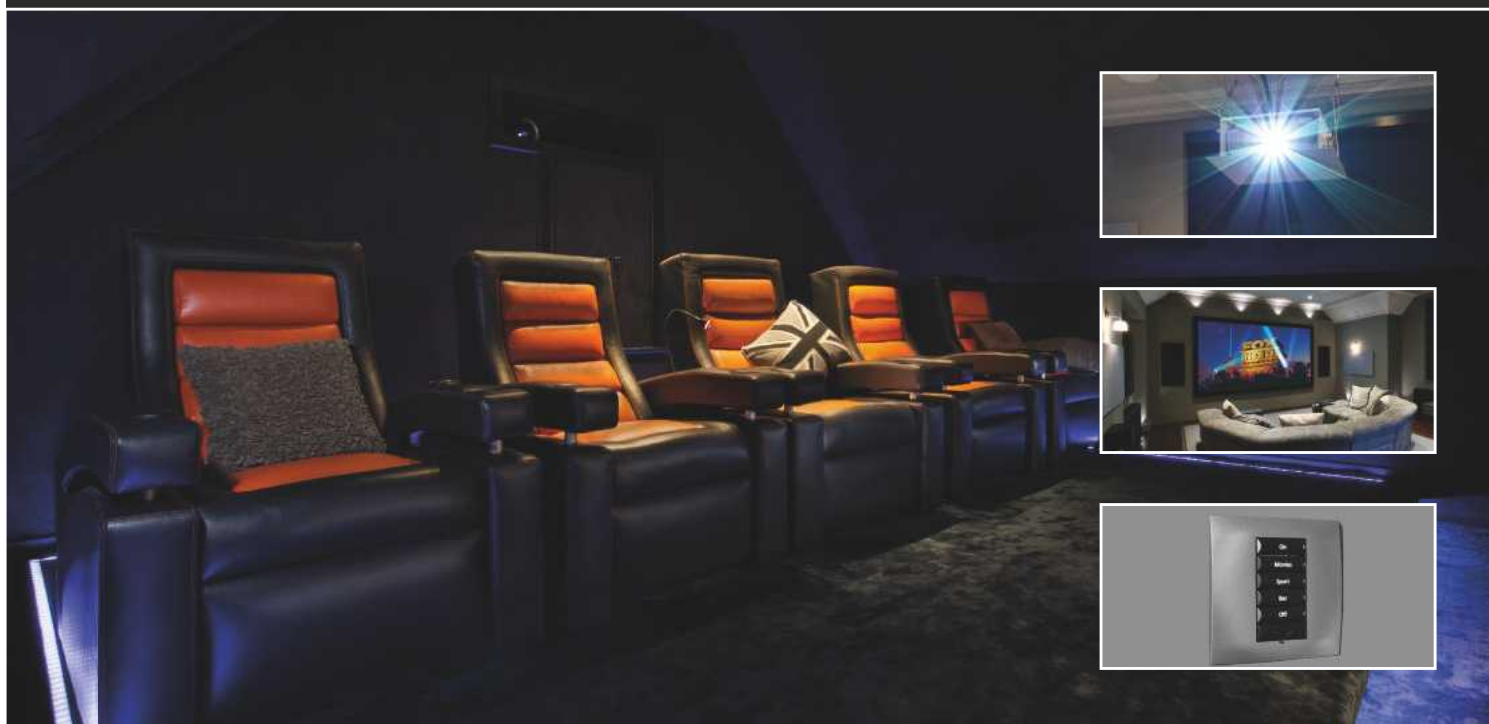
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Five of the Marx Brothers' 13 feature films made it onto the American Film Institute's list of 100 funniest US movies

Comic classics come home in HD

Witness the evolution of a legendary comedy team with this fantastic five-film Blu-ray boxset

→ THE 4 MARX BROTHERS AT PARAMOUNT 1929-1933

A family comedy act that hit it big on the stage during the 1920s, the Marx Brothers' reliance on humorous wordplay as much as other visual vaudeville humour meant a move to the bigscreen was basically a nonstarter until the arrival of the 'talkies'. But as soon as that technology was established, Hollywood – in the form of Paramount Pictures – came calling for Groucho, Chico, Harpo and Zeppo.

Adapted from existing Broadway productions, their first two films – 1929's *The Cocoanuts* and 1930's *Animal Crackers* – are clearly hampered by both the technological limitations of the time and the studio's need for something resembling a plot. As creaky as they seem in places, both still bring plenty of laughs (Groucho and Chico's 'Why a duck?' routine from *The Cocoanuts* is still utterly hilarious) and show the Brothers learning how to work on film.

Much better are 1931's *Monkey Business* and 1932's *Horse Feathers*, which all but dispense with plot as anything more than the loosest construct on which to hang a series of hilarious (and increasingly surreal) gags as the Brothers run roughshod over everyone and everything around them. *Horse Feathers* is also notable for Zeppo's turn in the spotlight as the romantic lead – the first and last time he would have such a key presence.



Benito Mussolini banned 1933's *Duck Soup* in Italy, believing the film to be a direct attack on him

Part political satire, part high-energy romp, the quartet's final film for Paramount (1933's *Duck Soup*) rattles off gags like bullets from a machine gun and remains one of the funniest films ever made.

All of which leaves us with just one question: how long are we going to have to wait for the eight remaining Marx Brothers movies to make their Blu-ray debuts?

Picture: All five films have been restored at 4K by NBCUniversal from the best available elements (none of the original nitrate negatives still exist). Given the inherent caveats regarding dirt and damage that come from dealing with films of this vintage, the overall quality is very good. That said, *The Cocoanuts* and *Horse Feathers* contain several sequences where image quality is much less consistent, looking several generations removed from the rest of the footage.

Audio: The restored LPCM dual-mono soundtracks are understandably hampered by the quality of the source material but – as with the video presentation – are still improvements on previous releases.

Extras: In addition to the films, Arrow's three-disc set includes all of the extras from the earlier US Blu-rays (scholarly chat-tracks, archival interviews and an 80-minute documentary), plus two brand-new video essays.

The boxset also includes an exclusive 58-page book containing essays about the five films, including one by former HCC staffer Pamela Hutchinson.

HCC VERDICT

The 4 Marx Brothers at Paramount 1929-1933

→ Arrow Academy → Region B BD
→ £45

WE SAY: Five films... four brothers... three discs... two new video essays... one wonderful Blu-ray boxset.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★★

All the Colours of the Dark

Shameless Screen Entertainment
Region B BD → £16



Sergio Martino's mind-bending 1972 *giallo* stars the exotic Edwige Fenech as a woman haunted by

nightmares about a knife-wielding man. But when the figure from her dreams starts pursuing her in real life, she seeks the aid of a Satanic cult in getting rid of him. Despite some scanner noise and the odd artefact in the encode, this stylish thriller cuts a fairly striking figure in Full HD. Modest English and Italian LPCM 2.0 soundtracks are provided. Extras include a fascinating commentary from two genre experts and an interview with Martino.



The Perfume of the Lady in Black

88 Films → Region B BD
£13



Haunted by visions of her dead mother and a mysterious little girl, unstable scientist Sylvia (Mimsy Farmer) finds

the boundary between reality and fantasy crumbling in this atmospheric 1974 *giallo*. While it's great that this little-seen horror gem has received a UK Blu-ray release, the disc's window-boxed 1.85:1 1080p encode is absolutely swamped by noise to the point where it sometimes distracts from the onscreen action. Still, at least it's a step up (albeit fairly minor) from the US disc. A trailer and the Italian opening/end credits are the only disc-based extras.



The Autopsy of Jane Doe

Lionsgate → Region B BD
£25



Brian Cox and Emile Hirsch play father and son coroners trying to unravel the mystery surrounding the corpse

of an unidentified young woman in this smart and elegantly-crafted fright-flick from André Øvredal, director of the 2010 Norwegian cult hit *Trollhunter*. While this UK Blu-ray release is disappointingly light on bonus goodies (the sole extra is a six-minute Q&A with Øvredal), the disc fares far better in the AV department thanks to its crisply delineated 2.40:1-framed 1080p visuals and nuanced DTS-HD Master Audio 5.1 soundtrack.



Prevenge

Kaleidoscope → All-region BD
£20



Alice Lowe's directorial debut (which she also wrote) is a jet-black stalk-and-slash flick about a recently

widowed woman (Lowe, again, and seven months pregnant at the time) who believes that her unborn baby is telling her to kill people. Dark, twisted and funny, the wonderfully warped *Prevenge* hits Blu-ray with a sharp 2.40:1 1080i encode and surprisingly involving DTS-HD MA 5.1 audio (the deployment of Toydrum's electro score is particularly effective). Also included on the disc are an illuminating commentary, a brief behind-the-scenes doc, and the trailer.



'Right, bring in the perverts...'

Dario Argento's slick thriller returns to Blu-ray via a dazzling new 4K restoration

→ THE BIRD WITH THE CRYSTAL PLUMAGE: LIMITED EDITION

Sam Dalmas (Tony Musante), an American writer living in Rome, witnesses a woman (Eva Renzi) being attacked in an art gallery. Attempting to help, Sam ends up trapped in a glass atrium and can only watch as the woman is stabbed and the attacker gets away. Following the incident, Sam grows increasingly obsessed by the idea that something he witnessed during the attack didn't make sense. But as he embarks on his own investigation, Sam and his girlfriend Giulia (Suzy Kendall) become targets for the mysterious killer.

While the Italian *giallo* genre of murder-mystery movies existed before 1970 (Mario Bava had already unleashed *The Girl Who Knew Too Much* and *Blood and Black Lace* on audiences in 1963 and 1964, respectively), it was Dario Argento's dazzling debut feature that transformed the *giallo* into box office gold. Gripping and stylish, with thrilling set-pieces that rival Hitchcock at his best, *The Bird with the Crystal Plumage* is an astonishingly assured debut that would become the template for an entire genre. And while Argento would go on to better it with 1975's *Deep Red*, this remains a remarkably skilful piece of filmmaking with a glove-clad grip on the viewer that never diminishes, no matter how many times you've already seen it.

Picture: Arrow first released *The Bird with the Crystal Plumage* on Blu-ray back in 2011. Sadly, that Full HD presentation of the film suffered from a number of



issues, not least cinematographer Vittorio Storaro's bizarre insistence that the film be issued in a cropped 2.00:1 version.

This latest release more than makes amends for that botched first attempt. Not only is the film finally presented in its original 2.35:1 aspect ratio, but Arrow has undertaken its own 4K restoration from the original camera negatives. The result is a vast improvement in every single area and comes as close to perfection as you could realistically hope for.

Audio: Restored DTS-HD MA 1.0 mono English and Italian soundtracks are included on the Blu-ray. While you might not expect too much from them, there's no denying that Ennio Morricone's score sounds sensational on both tracks.

Extras: Worthwhile extras include a commentary by genre expert Troy Howarth, a new interview with Argento, two video essays, an archival interview with Eva Renzi, three trailers, a poster and six art cards. ➤



HCC VERDICT

The Bird with the Crystal Plumage: Limited Edition

→ Arrow Video → Region B BD & R2 DVD → £30

WE SAY: It's taken two attempts, but Arrow has finally done Argento's stunning debut proud on Blu-ray,

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

**DISC
OF THE
MONTH**

Spin-off sinks its claws into you

Wolverine bows out with a thought-provoking drama disguised as a superhero film



Patrick Stewart returns as Charles 'Professor X' Xavier

→ **LOGAN**

Wolverine's star turns in the *X-Men* movie franchise haven't exactly set the world alight so far. Mercifully, though, *Logan* gives the character the send off his fans have been crying out for.

Writer/director James Mangold delivers a story that finally taps into Logan's depth as a character, and makes the inspired decision to serve up a grown-up film packed with appropriately grown-up violence, given extra impact by far less reliance on CGI than you get with its franchise partners. Superb. **Picture:** There are two 4K versions of *Logan* offered: the colour release, and a 'Noir' black-and-white version. Both look excellent in their different ways.

Based upon the film's cinematic 4K DI, the UHD transfers enjoy a significant detail and texture boost over the accompanying Full HD versions. Locations look denser and more 'lived in'; close-ups reveal more pore, hair and textile detail; and there's a more refined sense of space. Detailing doesn't hit the heights observed with some UHD BDs, but it still transforms your viewing experience.

Neither the colour or 'Noir' versions are especially showy about their use of HDR, but a subtle effect is good here, making every location and frame appear more natural and believable in a way that matches the film's relatively sombre, authentic tone.

The 'Noir' edit sees HDR applied to a black-and-white film, and it works surprisingly well. Light cues are more noticeable, and the monochrome range feels more stark and, as a result, bleak.

Occasionally a peak white will flare out slightly in the Noir version, but such overblown moments really are few and far between.

The expanded colour range on the theatrical version of *Logan* is again mostly a success, delivering far more vibrancy and finesse than the much flatter Blu-ray. Almost uncomfortably so, actually, when the limbs start flying... Our only complaint would be that skin tones are occasionally pushed too far, taking on a rather orange tone.

Audio: The Dolby Atmos soundmix on the 4K Blu-ray is superheroic. The height layer is employed not just for the occasional bold action effect or transition, but to consistently enhance the sense of space – both open and enclosed – in almost every scene. Front and rear channels are blended brilliantly, resulting in a seamless audio 'bubble' effect.

Monster bass – especially during Xavier's apocalyptic seizures – is the icing on the cake.

Extras: Mangold delivers an excellent chat-track on both 4K discs. You'll need to turn to the region-locked colour HD Blu-ray of the film for the deleted scenes and 76-minute *Making of...* documentary.

HCC VERDICT

Logan

→ Twentieth Century Fox → Ultra HD BD & Region B BD → £30

WE SAY: A strong UHD release of an excellent *X-Men* outing given added appeal by the inclusion of a brilliant 4K 'noir' version.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Keanu turns up the wick

Gunfire has never sounded as good as it does in this epic action sequel

→ JOHN WICK: CHAPTER 2

Picking up shortly after the conclusion of the first film, with a mood-setting Buster Keaton Easter egg, this high-octane sequel wastes no time putting the beat down. What unspools is an ambitious expansion of the series, in which we visit another Continental Hotel, this time in Rome, where our eponymous hero is obliged to take on another gig he really doesn't want. The themes are mythical and characters operatic, but the gun-fu is clearly inspired by the John Woo/Hong Kong action playbook (via a nod to *Enter the Dragon*). Insane bouts of action, juxtaposed with moments of comical civility, give the movie a sublime pace that actually makes perfect sense.

Completists should note that the 4K Blu-ray is the only way of owning the uncut version of the film in the UK. Both the standard Blu-ray and the DVD reflect the original theatrical release, which was rated 15 by the BBFC following 23 seconds of cuts to a suicide sequence.

Picture: The Ultra HD image quality is gorgeous. Opening with a soaring city view, there's plenty of scope for spectral HDR highlights, wide colour and huge detail. Dan Laustsen's cinematography is rich and polished, his fight sequences never disrupted by choppy, hyperactive editing. The movie is framed in 2.40:1 'Scope, and was shot on Arri Alexa/XT Plus at 2.8K with a 2K DI. Nothing seems lost on this HDR transfer.

Audio: Sound design is similarly impressive. A Dolby Atmos presentation, based on a theatrical Dolby Surround 7.1 mix, there's superb sonic



HCC VERDICT

John Wick: Chapter 2

→ Warner Bros. → Ultra HD BD & All-region BD → £35

WE SAY: This state-of-the-art action extravaganza boasts the best-sounding guns in cinema history.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

steerage to match the choreography. Dynamics are massive – gun retorts are shockingly loud, somehow finding room to breathe amid the hard rocking score. Big weapons even get their own reverb in the surround channels. The museum set-piece is a work of sonic art; this is an action movie mix to cherish.

Extras: There's only one bonus on the 4K disc, a commentary track, but it's a corker: star Reeves and director Chad Stahelski chat enthusiastically about the movie's elaborate stunts, and offer copious insights into the production.

The accompanying 1080p disc misses out on the commentary (due to the cuts to the film), but adds several featurettes, deleted scenes and trailers.

Hacksaw Ridge

Lionsgate → Ultra HD BD & Region B BD → £30



This WWII drama balances contemplations of pacifism with visceral action, and the blood, guts, dirt and fire shine through well in 4K HDR, despite supposedly being

based upon a 2K digital intermediate (from 3.4K digital imagery). Overall, there's a better contrast and a finer eye for both background and foreground detail, while colour fidelity increases. Furthermore, there are moments where the 4K image is stable while the 1080p version features brief artefacts (as seen in the sun-soaked walls in the church in Chapter 2). Extras (including a *Making of...*) reside on both discs.

★★★★★

The Great Wall

Universal Pictures → Ultra HD BD & All-region BD → £40



This leave-your-brain-at-the-door action fantasy looks resplendent on Universal's UHD

platter. The sense of sharpness is tangible, with facial pores, armour textures and wooden weaponry a feast for the eyes, while the varied colour swatch gains added punch and solidity from the wide colour/HDR makeover. At times it's simply gorgeous, although such is the clarity that the CGI beasts (rendered at 2K) can feel a little isolated. As with the Full HD release, Matt Damon's monster-scrappin' antics are joined by a Dolby Atmos soundtrack.

★★★★★

Terminator Genisys

Paramount/Universal Pictures → Ultra HD BD & All-region BD → £40



The *Terminator* film that no one really wanted makes a second play for your disc shelf in 4K HDR form.

Imagery is somewhat different from the SDR 1080p counterpart, but it's perhaps not the thrillingly intense, super-sharp lightfest you might be expecting from a sci-fi caper. Pixel info is a touch higher, but not consistently so, and the image can feel a bit flat at times. Increased levels of detail in dark areas, plus a slightly more finessed colour palette, are better examples of the UHD HDR upgrade. If you already own the BD, this perhaps isn't an essential double-dip.

★★★★★



Do you need your mummy?

4K HDR technology re-animates the corpse of this big-budget action franchise

→ THE MUMMY TRILOGY

Universal has cashed in on the recent cinematic release of its big-budget *Mummy* reboot by rolling out its previous Brendan Fraser *Mummy* trilogy (1999's *The Mummy*, 2001's *The Mummy Returns* and 2008's *The Mummy: Curse of the Dragon Emperor*) on 4K Blu-ray. Which reminds us that while the first film was a genuine hoot, the second was rather a mess, while the third was as much fun as snogging a desiccated corpse.

Picture: While *The Mummy Trilogy*'s 4K revival doesn't deliver state-of-the-art picture quality, it does provide a surprisingly big step-up over previous Blu-ray releases.

UHD detail levels are inconsistent, but there's usually more texture to close-up and mid-distance work, as well as slightly more depth to largescale shots. The HDR and wide colour gamut also add a surprising amount of luminance and colour strength to all three transfers. Exteriors look much more potent and life-like, peak light highlights look more eye-catching, black levels are deeper, and interiors feel opened up by extra shadow detail and a subtler light palette.

There are a few 4K issues, however. Noise looks more pronounced in skies, effects shots and smoky scenes. Black levels in the first two films can look forced (though there's thankfully no sign of the raised black tones seen with some other celluloid-to-4K scans). Colours can appear slightly 'digitised' or over-wrought in the first two films.

Overall, though, these three titles have never looked nearly as good as they do on 4K Blu-ray.



One sai fits all

Audio: All three films have been revisited with DTS:X tracks. This remixing is at its most effective with the relatively up-to-date third movie, which really pushes the bass boat out while making much more aggressive use of rear and height channels. Yet, across the board, these mixes sound much more detailed and more immersive in their DTS:X incarnations than they do in their original DTS-HD MA 5.1 guises, as found on the 1080p Blu-rays.

Extras: The three 4K discs feature worthwhile director's commentaries. All remaining archival goodies are relegated to the 1080p BDs included in the set. In the case of the third movie, at least, the extras are more entertaining than the film itself.

HCC VERDICT

The Mummy Trilogy

→ Universal Pictures → Ultra HD BD & All-region BD → £40

WE SAY: Surprisingly effective 4K HDR upgrades ensure that these films have never looked better.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Unforgiven

Warner Bros. → Ultra HD BD & All-region BD → £28



Clint Eastwood's 1992 Western picks apart the mythology of the genre before reconfirming it in violent style, and for the film's 25th anniversary, Warner has

cooked up a new 4K master, approved by Eastwood, which serves as the basis for both the UHD and BD discs in this release. Pleasingly, after a couple of 4K misfires from the studio, there's nothing to complain about. Image quality is superb; naturalistic, film-like and stable, rather than over-blown. Extras from the previous BD release are gathered here again, with the chat-track housed on the 4K disc.

★★★★★

La La Land

Lionsgate → Ultra HD BD & Region B BD → £30



Fans of actors pretending they can sing and dance can rejoice – this award-winning musical

scrubs up well in 4K, despite apparently being based upon a 2K DI (which feels an odd choice for a modern movie shot on 35mm film at 2.55:1). While detail levels aren't through the roof, there's a pervasive sense of extra zing delivered by the transfer's wider colour and HDR facets. Frequent primary hues have more volume; everything just feels a bit more... jazzy. The soundmix on the 4K disc is the same wonderfully rich and musical Dolby Atmos track found on the BD.

★★★★★

Patriots Day

Lionsgate → Ultra HD BD & Region B BD → £30



This shot-on-digital Mark Wahlberg/Peter Berg dramatic retelling of the Boston

Marathon bombing looks crisp and detailed on 1080p Blu-ray – on 4K the experience is much the same, only boosted. The general colour scheme remains somewhat muted, but police lights and hi-viz uniforms cut through with added luminance, and there's never a lack of clarity, apart from when real-life TV news footage is employed. As with *Hacksaw Ridge*, Lionsgate loads the UHD disc with extras. Audio is DTS:X flavoured, subtle but atmospheric.

★★★★★



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Collecting...

Paul Verhoeven

Dutch director Paul Verhoeven is back to his shocking best with his new thriller *Elle*, and to celebrate **Team HCC** revisits 10 of his most memorable movies on Blu-ray and DVD...

ROBOCOP

The title of this 1987 sci-fi suggests a simplistic tale, but Verhoeven and writers Edward Neumeier and Michael Miner mix up the ultra-violent action with a plot that weaves in themes of privatisation, corporate greed, corruption and what it means to be human. Chuck in a rich vein of black humour and the SFX stop-motion genius of the ED-209 enforcement droid and you have an inarguable classic of the genre.

Get it: For a 2014 BD re-release, rights-holder MGM cooked up a new 4K scan from the original negative – the result is a film that has never looked better. A new Q&A feature with Verhoeven and others, plus a wealth of bonus features carried over from previous DVD releases, sweeten the deal. Note that the *RoboCop Trilogy* Blu-ray boxset also features this remastered edition.



TOP PICK



THE FOURTH MAN

Not a sequel to *The Third Man*, but rather a kinky 1983 Dutch thriller about a novelist who experiences visions of the Virgin Mary warning him that the woman he is having an affair with wants to kill him...

Get it: *The Fourth Man* was released on DVD in the UK by the now-defunct Tartan Video and in the US as part of Anchor Bay's *Paul Verhoeven Collection* DVD boxset. With its superior transfer and more extras, the latter is the best of the two, but is also long out-of-print and now commands a hefty price tag.



FLESH + BLOOD

Paul Verhoeven's first English-language film (1985) is a medieval romp about a band of mercenaries who kidnap a nobleman's future daughter-in-law. A ruthless piece of exploitation cinema, *Flesh + Blood* fully justifies the violent and carnal implications of its title.

Get it: *Flesh + Blood* was released uncut on Region A Blu-ray by Kino Lorber in 2014, partnered with a commentary from Verhoeven and an interview with composer Basil Poledouris. An English-friendly German BD is also available.



TOTAL RECALL

Is Arnie a spy? Is he evil? Is it all a fake memory? The beauty of this 1990 sci-fi is that it posts so many questions, choosing not to answer them in favour of throwing bullets around your viewing room. Schwarzenegger excels as Quaid, flexing his biceps when needed, and Ronny Cox and Michael Ironside do good work as villains. Some of the SFX are a bit... ropey.

Get it: An early MPEG-2 Blu-ray release was thankfully replaced by a Verhoeven-approved transfer on the 2012 *Ultimate Recall Edition* from StudioCanal.



STARSHIP TROOPERS

After the mauling given to *Showgirls* (opposite), a return to sci-fi was probably in order, and the resulting movie in 1997 was as sharp as a Bug's claw. Splatter-filled SFX and grin-inducing satire make up for the efforts of the rather weak cast – the direct-to-DVD sequels aren't anyway near as good, unfortunately.

Get it: Disney's 2008 BD (with LPCM 5.1 audio) remains the best option and is loaded with extras. The trilogy boxset appears to be out-of-print.



SPETTERS

If a Dutch coming-of-age drama following a trio of dirt-bike racers and the girl they are all chasing might sound a bit tame for Paul Verhoeven, fear not. Gritty and haunting, this 1980 film is far removed from your typical US teen movie and still packs one heck of a punch.

Get it: The R2 DVD release put out on these shores by MGM back in 2005 can still be picked up for about a fiver – but why bother with that when you can import the film on Blu-ray from Germany instead? Just avoid the 2015 Dutch BD, as that disc reportedly lacks English subtitles.



BASIC INSTINCT

Michael Douglas and Sharon Stone play an especially torrid game of cat and mouse in this 1992 bonk-buster that caused outrage and excitement in equal measure. Mixing sex, violence and satire in the way that only a Verhoeven film can, *Basic Instinct* is top-shelf trash cinema *par excellence*.

Get it: The old UK Blu-ray looks fine but is a barebones effort. Much better is Lionsgate's Region A-locked US BD, which ports across all of the old DVD extras, including two chat-tracks and a look at the film's TV edit.



SHOWGIRLS

Panned by critics upon its cinema release in 1995 and the recipient of eight Golden Raspberry awards, this purposely tasteless and cartoonish satire about one woman's quest for fame has since gone on to find a more appreciative and understanding audience on VHS, LaserDisc, DVD and now Blu-ray. Watch it to see what the fuss was all about.

Get it: MGM's Region A-locked *15th Anniversary Sinsational Edition* Blu-ray offers up the film in eye-popping Full HD alongside some fun extras, including a chat-track and – erm – a lap-dancing tutorial video.



SOLDIER OF ORANGE

The most expensive Dutch film ever made at the time of its production, this award-winning 1977 World War II drama follows the different paths taken by four students during the German occupation. Both a technical *tour-de-force* and a gripping piece of storytelling, it's no wonder that Hollywood came calling soon after its release.

Get it: Currently unavailable on Blu-ray, *Soldier of Orange* was released in the UK on DVD by Tartan Video in 2007. The film also featured in the out-of-print Anchor Bay R1 DVD boxset.



BLACK BOOK

Six years after his last Hollywood film (2000's disappointing *Hollow Man*) Verhoeven returned to the Netherlands to craft this electrifying World War II thriller. A companion piece of sorts to *Soldier of Orange*, the film stars Carice van Houten as a young Jewish singer who risks her life by becoming a spy for the Dutch resistance. Exciting, suspenseful and packed with twists and turns, *Black Book* found Verhoeven firing on all cylinders, and delivering one of the finest films of his extraordinary career.

Get it: The Palisades Tartan UK Blu-ray boasts solid AV and is available for less than a tenner. However, it does lack the director's commentary that appears on both the US (Region A) and Australian (Region B) Blu-rays.

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HCC RATINGS KEY...

Outstanding	★★★★★
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Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

TOP 10 Televisions

**Sony KD-65ZD9** → £3,500

★★★★★

Sony finished 2016 on a high with this full-array LED Bravia (with advanced local dimming tech) that claims a 1,800-nit peak brightness. Cinematic, sublime pictures – and Dolby Vision support is a firmware update away. *HCC #267*



NEW ENTRY

LG OLED65E7 → £5,000 ★★★★★

3D playback has been dropped, but the E7 offers welcome picture improvements over last year's E6, particularly brightness and near-black talents. Supports Dolby Vision. *HCC #274*

**Panasonic TX-65DX902** → £2,000 ★★★★★

This HDR-capable 65-incher wears its Ultra HD Premium badge with pride, and employs a full-array backlight to take control of its impressive luminance talents. Imagery is excellent. *HCC #259*

**Philips 55POS901F** → £2,800 ★★★★★

Philips enters the OLED arena with a screen that stands out courtesy of its alluring performance and Ambilight. But it lacks the smart skills and 3D playback of some rivals. *HCC #270*

**Samsung QE65Q9F** → £4,900 ★★★★★

This premium 'QLED' screen outguns rivals when it comes to brightness and visual impact. Routinely stunning, but edge LED lighting has some niggles. No 3D or Dolby Vision. *HCC #273*

**Sony KD-55XE9005** → £1,700 ★★★★★

Sony brings direct LED illumination to the 55in arena. Still not an absolute HDR knockout (local dimming isn't foolproof) but generally this is a good-looking set for the AV everyman. *HCC #272*

**Sony KD-55XE9305** → £2,400 ★★★★★

This Android 4K LED model hits the highs when it comes to brightness and colour impact, leading to some stellar HDR visuals. Yet the edge LED lighting shows some flaws. *HCC #271*

**Panasonic TX-50DX750** → £800 ★★★★★

Mid-range 4K/HDR LED TV. Not as impactful as its DX902 stablemate when it comes to pictures, but a neat design, fun UI and appealing screen size will win it plenty of fans. *HCC #260*

**Hisense 75M7900** → £2,500 ★★★★★

A massive 75in LED set at a bargain price. The appeal is its largescreen 4K playback: a lack of innate brightness and colour subtlety hampers HDR performance. *#267*

**Hitachi 49GHT69U** → £500 ★★★★★

49in 4K screen that could appeal to those on tight budgets. This £500 set offers a smattering of catchup, decent connectivity and a generally enjoyable image. No HDR support, though. *HCC #260*

TECH INFO: TELEVISIONS



4K is here to stay: The TV market is currently dominated by LED-lit LCD screens – plasma is long gone – but OLED is gaining a share as more brands adopt the self-emissive screen technology. 4K/Ultra HD models are now commonplace on displays above the 40in mark, which is where you should be looking for home cinema thrills. Curved models were once achingly trendy, but we're seeing a shift away from such design flourishes. Look out for sets offering support for HDR content, which is part of the UHD Blu-ray specification.



Active or Passive: At the beginning of the 3D era, most TVs featured the active system that uses powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. 3D playback is increasingly being dropped by brands (including Samsung and Philips). Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on. The tech is still being worked on, though...

TOP 5 Blu-ray movies

**Rogue One: A Star Wars Story**

This stonking new addition to the *Star Wars* universe is a Force to be reckoned with on Blu-ray thanks to its electrifying 2.40:1 1080p visuals and reference-quality DTS-HD MA 7.1 sonics.

★★★★★

**Fantastic Beasts and Where to Find Them [Ultra HD Blu-ray]**

Warner's lively Harry Potter spin-off/prequel conjures up spellbinding 4K HDR imagery, accompanied by a playful Atmos audio mix.

★★★★★

**Hacksaw Ridge**

Mel Gibson's enthralling real-life World War 2 story explodes onto Blu-ray with dazzlingly detailed 2.40:1 Full HD visuals and one of the most impactful Dolby Atmos soundtracks you'll ever hear. The extras are well worth a look, too.

★★★★★

**Deepwater Horizon [Ultra HD Blu-ray]**

Tense, explosive 'docbuster' that reunites Mark Wahlberg with *Lone Survivor* director Peter Berg. Lionsgate's 4K disc offers a breathtaking Atmos soundtrack and flaming HDR visuals.

★★★★★

**The LEGO Batman Movie**

Joyful, satirical and packed with fan-pleasing references, this toytastic 'toon is hard to beat. Colourful, sharp visuals, Dolby Atmos sonics and decent extras, including an informative director's commentary.

★★★★★

TOP 10 Blu-ray & Ultra HD Blu-ray players

- 1**  **Oppo UDP-203 → £650** ★★★★★
 Oppo refreshes its player hardware with a superb universal design with Ultra HD playback (including Dolby Vision via firmware update). Packed with user adjustments and connectivity. No apps or Darbee Vision, though. *HCC #269*
- 2**  **Oppo UDP-205 → £1,400** ★★★★★ **NEW ENTRY**
 This pricey, peerless UHD deck flaunts universal disc playback, asynchronous USB input, headphone amp and balanced stereo outs amongst its audiophile features. One for musos. *HCC #274*
- 3**  **Sony UBP-X800 → £400** ★★★★★ **NEW ENTRY**
 Sony embraces UHD Blu-ray with a full-width, sturdy design that'll also spin DVD-A and SACD platters. A great all-rounder, but no Dolby Vision support. *HCC #274*
- 4**  **Panasonic DMP-UB900 → £600** ★★★★★
 The Ultra HD Blu-ray format got an inspiring debut in Panasonic's multi-talented deck that offers a sterling picture performance and 4K-enabled VOD apps. No Dolby Vision. *HCC #259*
- 5**  **Panasonic DMP-UB700 → £300** ★★★★★
 Shorn of some of the audiophile niceties of the UB900 (including multichannel analogue outputs), but still a safe pair of hands with your 4K BDs. And at a bargain price. *HCC #270*
- 6**  **Arcam FMJ UDP411 → £1,200** ★★★★★
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. *HCC #244*
- 7**  **Panasonic DMP-UB300 → £240** ★★★★★
 Great 4K imagery from this bargain deck, but you might prefer to up your budget for the UB700 – no split HDMI, optical/coaxial or Wi-Fi connections here. Half-size design. *HCC #272*
- 8**  **Samsung UBD-K8500 → £350** ★★★★★
 Ultra HD Blu-ray player that'll find fans courtesy of its sensible price point, connected smarts and eye-catching visuals. Build quality is a little uninspiring. *HCC #260*
- 9**  **LG BP556 → £85** ★★★★★
 LG's top-of-the-line(!) disc-spinner is actually a budget offering. Design is a bit garish, but the addition of multiroom streaming, some smart apps and file playback sweeten the deal. *HCC #266*
- 10**  **Samsung BD-J7500 → £150** ★★★★★
 This well-priced spinner offers twin HDMI outputs and multichannel phono audio for flexible system hookup, an appealing design, smart features and solid AV chops. *HCC #247*

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D/4K/HDR output signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about consoles?: Both Sony's PlayStation and Microsoft's Xbox platforms support Blu-ray playback – the latter's Xbox One S will even spin your Ultra HD Blu-ray platters. Using a console can be an affordable alternative to a deck, particularly when gaming and media playing talents are taken into account, but the joy pad user experience can feel a little odd and you'll need to make sure no one else is playing *Grand Theft Auto* first.



DEMO DELIGHT

Billy Lynn's Long Halftime Walk: Ang Lee's post-Gulf War drama isn't exactly a cracking film, but as the world's first 60fps 4K Blu-ray title it gives you a chance to sample high-frame-rate home cinema. Will you like it? That's not for us to say...

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TOP 10 Projectors

**Sony VPL-VW550ES** → £9,000

★★★★★

For its top-range domestic SXRD beamer, Sony introduces an HDR Contrast tool that proves useful in fine-tuning its UHD Blu-ray performance. Excels with standard BD content and setup flexibility, too. *HCC #269*

**JVC DLA-X7000** → £5,700 ★★★★★

With contrast and brightness improvements over the more affordable DLA-X5000, this is a great bigscreen option, although its SDR performance impresses more than HDR. *HCC #259*

**Sony VPL-HW45ES** → £1,850 ★★★★★

The most affordable model in Sony's home cinema range, the Full HD-resolution 45ES features excellent light management for a routinely cinematic image. Great value. *HCC #263*

**Epson EH-TW6700** → £1,300 ★★★★★

HDR and 4K scaling are off the menu, leaving this mid-range model to concentrate on cinematic HD images. Bright, crisp performance, plenty of tweaks, but no 12V trigger. *HCC #271*

**Acer V9800** → £4,000 ★★★★★

This 4K DLP offers wonderful clarity and bright HDR peaks via its 2,200 Lumens lamp. Black levels aren't the best, but the price here feels about right for a debut technology. *HCC #272*

**Epson EH-TW9300** → £3,000 ★★★★★

Epson brings HDR playback and 4K up-rezzing to an agreeable price tag. Colourful and well-contrasted visuals, but don't expect an HDR knockout. *HCC #266*

**ViewSonic Pro7827HD** → £600 ★★★★★

Pictures impress from this single-chip DLP budget option that carries a third HDMI input designed for smart sticks. Includes ISF calibration. 3D spex are an optional extra. *HCC #261*

**Epson EH-TW7300** → £2,200 ★★★★★

Similar performance traits to its bigger brother (above), but with reductions in max brightness (and claimed contrast). Currently the most affordable HDR model around. *HCC #269*

**Optoma GT5000** → £1,000 ★★★★★

Ultra short-throw model with healthy brightness that makes sense for regular living rooms where a traditional install isn't possible. Casts Full HD images from just 30cm. *HCC #261*

**BenQ W2000** → £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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TOP 10 Speakers



1 Monitor Audio Gold 300AV → £7,150



MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*



2 Q Acoustics 3000 5.1 Cinema Pack → £700 ★★★★★

A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*



3 KEF R Series 7.1 → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*



4 Monitor Audio Bronze B5 AV → £1,500 ★★★★★

Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*



5 ELAC Debut 5.1.2 → £1,950 ★★★★★

Well-priced floorstanding Atmos system that manages to balance subtlety and precision with an exciting delivery. Subwoofer includes app-based room EQ. *HCC #262*



6 DALI Opticon 5.1 → £3,200 ★★★★★

The Opticons employ driver designs created for DALI's higher-end models, and showcase a talent for both involving music presentation and high-octane home cinema. *HCC #260*



7 Polk Signature Series 5.1 → £1,450 ★★★★★

Impressively largescale performance from a well-priced floorstanding system with slimmed-down centre enclosure. Upfront and boisterous sound; a great entertainer. *HCC #273*



8 Dynaudio Emit 5.1 → £3,200 ★★★★★

Entry-level for Danish brand Dynaudio – still a hefty chunk for a 5.1 array. What the money gets you is a wonderfully natural and cohesive soundstage and stonking build quality. *HCC #263*



9 Wharfedale DX-ISE → £400 ★★★★★

Delightfully compact 5.1 package (although with two-way satellite speakers) that blends a tidy design with crisp surround sonics at a very tempting price. *HCC #267*



10 Quad S Series 5.0 → £1,800 ★★★★★

Standmount speakers with ribbon tweeters join together in a multichannel pack with a smooth, detailed and unfatiguing sound. Neat design and build. Just add a subwoofer. *HCC #271*

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Arrival: No object-audio here, but this DTS-HD MA 7.1 track is a reminder of how brilliant a 'flat' mix can be. From the shaking lows of moving spacecraft to the soaring strings of Max Richter's instrumental track *On The Nature of Daylight*, there's fidelity in spades, and the sound design is packed full of location-setting ambience. Awesome.



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Photo courtesy of Gary J. Fernandez Limited

TOP 10 AV Receivers/AV Processors

**Anthem MRX 1120** → £4,000

★★★★★

Combining Anthem's superb ARC room EQ system with 11-channel amplification makes this an essential consideration for full-spec Atmos setups. Muscular, precise sound. No networking skills, though. *HCC #265*

**Arcam AVR850** → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. *HCC #257*

**Denon AVR-X4300H** → £1,300 ★★★★★

Nine-channel receiver with HEOS multiroom integration and 11-channel processing (Atmos, DTS:X, plus Auro-3D as a paid-for upgrade). Great, detailed sound and foolproof usability. *HCC #267*

**Trinnov Audio Altitude32** → £27,000 ★★★★★

Capable of outputting 32 discrete channels and mapping Dolby Atmos, DTS:X and Auro-3D sources to any setup via advanced EQ. Only premium cinema owners need apply, though. *HCC #262*

**Denon AVR-X2300W** → £500 ★★★★★

This almost entry-level Denon offers excellent value for money, with a well-balanced sound signature and bulging feature set. Seven-channel design won't suit all setups. *HCC #263*

**Yamaha RX-A3060** → £2,000 ★★★★★

New nine-channel flagship from Yamaha features excellent room EQ implementation, well-judged DSP modes, and an even-handed, effortless sound. *HCC #264*

**Denon AVR-X6300H** → £2,000 ★★★★★

Denon bundles 11 channels of power, plus cutting-edge features, into this crisp, articulate AV receiver. Ideal partner for 7.1.4 setups, but not quite the muscle-monster you might expect. *HCC #269*

**Marantz NR1607** → £600 ★★★★★

The latest slim-line AVR from Marantz continues the brand's good work when it comes to space-saving sonics. Seven-channel amp with object-based audio. Punchy, lively sound. *HCC #266*

**Pioneer VSX-1131** → £550 ★★★★★

Seven-channel model with Atmos and DTS:X support that features an overhauled remote control and UI to improve usability. Bass-rich, energetic sound. *HCC #265*

**Yamaha RX-A860** → £900 ★★★★★

Only seven channels and hindered by only three HDCP 2.2-enabled HDMI inputs, but beyond that this flexible MusicCast AVR proves a great listen, with plenty of DSP toys. *HCC #270*

TECH INFO: AV RECEIVERS



Tackling new heights: A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and DTS:X. Most AVR brands have pledged support for the latter; software isn't as widespread as Atmos.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

TOP 5 Bonus features

**Sam Peckinpah: Man of Iron – The Director's Cut**

Arrow Video bolsters its *Bring Me the Head of Alfredo Garcia*: Limited Edition Blu-ray with over 10 hours of extended interviews shot for Paul Joyce's fascinating TV doc about the film's director.

★★★★★

**Star Wars: The Force Awakens commentary**

Director JJ Abrams provides a trivia-packed chat track on the Collector's Edition Blu-ray release of Disney's box office killer. Indispensable for *Star Wars* geeks.

★★★★★

**Napoleon: Triptych**

On a package that also features a remarkable five-hour commentary track, the option to watch the movie's three-panel footage on three displays (via three discs) is the icing on the cake.

★★★★★

**The Wild One and the BBFC**

Accompanying the Marlon Brando classic, this 25-minute interview with former BBFC examiner Richard Falcon provides absorbing insight into the movie's original controversy and 14-year UK ban.

★★★★★

**You're so cool, Brewster!**

Fan-pleasing 147-minute retrospective *Fright Night* documentary (edited down from an original much-longer crowd-sourced movie) featuring exclusive interviews and plenty of production nuggets.

★★★★★

TOP 10 Subwoofers

- 

SVS SB-2000 → £600 ★★★★★
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

REL No.25 → £6,500 ★★★★★
REL celebrates its 25th anniversary in style with this 15in/1,000W premium concoction that exhibits exhilarating speed and nuance down to serious depths. Big, but beautiful. *HCC #271*
- 

JL Audio Fathom f121v2 → £6,500 ★★★★★
A second-gen outing for JL's 2 x 12in monster, with an increase in power (now 3,600W) and improvements to the room EQ system among the changes. Sounds as good as you'd imagine. *HCC #261*
- 

SVS SB16-Ultra → £2,500 ★★★★★
A big driver (16in) and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low while sounding tight and fast. App-assisted EQ and operation. *HCC #270*
- 

REL S/3 SHO → £1,450 ★★★★★
The 10in, 400W S/3 is part of REL's revamped 'Super High Output' Serie S line. Performance is excellent, with speed, control and a scale bigger than you might expect. *HCC #264*
- 

BK Electronics P12-300SB-DF → £475 ★★★★★
Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered, and other finishes knock the ticket down to sub-£400. *HCC #247*
- 

Eclipse TD520SW → £3,000 ★★★★★
This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Simply put, the TD520SW is worth every penny of its asking price. *HCC #249*
- 

GoldenEar SuperSub X → £1,450 ★★★★★
Four drivers (two active, two passive) squeezed into a relatively compact design and given plenty of push from a 1,400W amp. Standout traits are impact and depth. *HCC #272*
- 

SVS PC-2000 → £800 ★★★★★
The cylinder construction means this 12in, 500W design can boast a large cabinet but a relatively small footprint. Good value with weighty, slamming bass, but a little lacking in nuance. *HCC #267*
- 

Artison Nano 1 → £800 ★★★★★
Artison's media room-friendly woofer tucks twin 6.5in bass drivers and a 300W amp into its compact frame. Bass extension isn't the deepest, but this is tight, fast and heaps of fun. *HCC #253*

TECH INFO: SPEAKERS



Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

Rogue One: A Star Wars Story: Another cracking DTS-HD MA 7.1 soundmix from Disney for one of its crown jewels, and – as with *...Force Awakens* – there's LFE aplenty. Largescale moments like the destruction of Jedha are blessed with rolling, heaving, show-stopping bass, while every blast, thud and boom of the Scarif showdown carries believable weight. Not too OTT, but not afraid to shake the rafters, either.

TOP 5 Console games



Call of Duty: Infinite Warfare

The sci-fi trappings may upset COD purists, but this is one of the series' best entries in years. The action-packed single-player campaign is a blast; multiplayer extends the fun.

★★★★★



Resident Evil 7: Biohazard

Moving from the familiar third-person perspective to a first-person view was always going to be a risk, but it pays off here with a terrifying return to the series' roots. PS4 Pro owners get enhanced resolution visuals.

★★★★★



Prey

Bethesda's FPS (and reboot of the popular 2006 title) refreshes the genre with inanimate-object-mimicking monsters, and offers plenty of gameplay variety. Good-looking, but 4K is limited to PC-based setups.

★★★★★



Horizon Zero Dawn

Tomb Raider meets *Zelda* in this PS4-exclusive action-adventure pitting humans against massive mechanical beasts. Excellent gameplay, and the 4K visuals are perhaps the best reason yet to upgrade to a PS4 Pro.

★★★★★



The Legend of Zelda: Breath of the Wild

Nintendo has given its new Switch console the best start possible with this audacious and imaginative open-world addition to its ever-popular action-RPG series. A real treat.

★★★★★

TOP 10 Accessories

- 1 KEF R50 → £600 ★★★★★**
 KEF's Dolby Atmos-enabled reflective modules are a smart choice for anyone looking to beef up their speaker system. Using the company's Uni-Q point source drivers pays real dividends, enabling full-range sonics that reach deep into your cinema room. Styling and build quality are first rate. £600 gets you a pair – you'll soon want four... *HCC #252*
- 2 Yamaha WX-AD10 → £150 ★★★★★**
 Simple to use, unobtrusive add-on that brings MusicCast multiroom/hi-res streaming to legacy AV gear via 3.5mm/phono. Not a bad price – only available in grey, unfortunately. *HCC #274*
- 3 Amazon Echo Dot → £50 ★★★★★**
 Less impressive as a standalone speaker than its larger sibling, but a third of the price, and its 3.5mm output lets it work with third-party kit. Fun AI experience, and a real bargain. *HCC #269*
- 4 Nvidia Shield Android TV → £180 ★★★★★**
 The Android-based streamer/gaming box gets a gentle revamp – same silicon, neater design, new features including future support for Google Assistant. Slick and easy to use. *HCC #272*
- 5 Amazon Fire TV → £80 ★★★★★**
 Media streamer with impressive search functionality and plenty of content, including 4K Netflix and Amazon Video. HDR support would be nice, though. *HCC #270*
- 6 Logitech Harmony Elite → £270 ★★★★★**
 Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*
- 7 Devolo Wi-Fi ac Repeater → £50 ★★★★★**
 Simple plug-based add-on that extends the range of your Wi-Fi network, and offers hardwired access. Could be just the ticket for your loft-based movie room. *HCC #269*
- 8 Xbox One S → From £250 ★★★★★**
 The retooled Xbox One adds Ultra HD Blu-ray playback, 4K streaming and HDR gaming to the feature list. Available in 500GB/1TB/2TB versions. *HCC #264*
- 9 PSB Imagine XA → £350 ★★★★★**
 These two-way Dolby Atmos-enabled upfiring speakers are fairly chunky, but work well at creating a height layer and the £350-per-pair ticket makes them an enticing option. *HCC #264*
- 10 DVDO iScan Mini → £275 ★★★★★**
 HDMI 4K upscaler (using Silicon Image's VRS processing) that teases sharpness from HD and SD sources. A good fit for an entry-level or mid-range 4K TV. *HCC #264*

TECH INFO: MEDIA PLAYERS



What about my TV?: Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Philips, Hisense, etc) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 Blu-ray/DVD boxsets


Planet Earth II [Ultra HD Blu-ray]

Intricately detailed and radiating HDR brilliance, this dazzling 4K outing for the BBC's acclaimed natural history series needs to be seen. And you'll learn a lot about furry critters, too.

★★★★★


Doctor Who: The Power of the Daleks

Unseen since 1966, this missing BBC serial has been recreated using animation – with the choice of colour or black-and-white incarnations – and packs a TARDIS-load of extras.

★★★★★


Phantasm 1-5: Limited Edition

A must-own for fans of the cult film franchise, this epic six-disc boxset delivers impressive HD presentations of all five fright flicks alongside a cornucopia of new and archival bonus goodies.

★★★★★


Dissent and Disruption: Alan Clarke at the BBC (1969-1989)

Mega boxset with a mega price tag (£150) featuring a comprehensive collection of Clarke's work spread across 11 BDs and two DVDs.

★★★★★



Frankenstein: Complete Legacy Collection


The best of a barrage of new Universal 'classic monsters' boxsets, combining superior flicks (including *Abbot and Costello Meet...*) with impressive 4K restorations.


★★★★★


TOP 10 Soundbars & Soundbases


- 


Yamaha YSP-5600SW → £1,900 ★★★★★
 With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*
- 


Canton DM55 → £330 ★★★★★
 Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doodle to use. Bluetooth built-in. *HCC #260*
- 


Samsung HW-K950 → £1,300 ★★★★★
 Soundbar with additional wireless rears and Dolby Atmos support via four upfiring drivers. Impressively largescale performance, good connectivity. No native DTS support. *HCC #263*
- 


Samsung HW-MS650 → £600 ★★★★★
 Superior signal processing and a ground-up design make Samsung's subwoofer-free soundbar thrillingly impressive with movie, TV and music material. Expandable to 5.1. *HCC #273*
- 

Cabasse Stream BAR → £850 ★★★★★
 Soundbar/hi-res speaker that's blessed with real musicality, but doesn't fall short when it comes to energetic film soundtracks. HDMI in/out, but v1.4 only. *HCC #269*
- 

Q Acoustics M3 → £300 ★★★★★
 A 4in x 6in woofer is tucked away in the M3's eye-catching angular chassis, ensuring this well-priced soundbar has a full-range performance. Simple to use. Bluetooth streaming. *HCC #271*
- 

DALI Kubik One → £800 ★★★★★
 The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. *HCC #269*
- 

Sonos Playbase → £700 ★★★★★
 Although this features the same foibles as the Sonos Playbar (no Bluetooth, no HDMI, no DTS), this multiroom maestro looks good and sounds good. Detailed, with naturalistic bass. *HCC #273*
- 

Orbitsound One P70 → £300 ★★★★★
 Bluetooth-equipped soundbar that offers horizontal/vertical orientation by virtue of a flippable display and up-firing driver. Spacious sound with a good bass response. *HCC #272*
- 

LG SJ9 → £1,000 ★★★★★ **NEW ENTRY**
 While Dolby Atmos compatible (with dual upfiring drivers), LG's premium bar/sub combi leaves a greater impression with its fulsome delivery and good connectivity. *HCC #274*

TECH INFO: TV PLATFORMS



TV addicts – go free, or pay-to-view?:

The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

Sky+HD: The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. The new Sky Q hardware includes a 4K-capable PVR with multiple tuners for simultaneous recording/device streaming.

Virgin Media TiVo: The cable giant offers an eight-tuner 4K PVR with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

Freeview: Common option when it comes to TVs and STBs. Freeview offers 13 HD channels plus SD and radio. Freeview Play adds IPTV integration to the EPG – you'll find it on Panasonic and Philips TVs.

Freesat: Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered via a dish but without a subs cost. Budget-priced STBs are available.

YouView: This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

TOP 5 Back-catalogue Blu-rays



Mulholland Drive

15 years after it first opened at UK cinemas, David Lynch's mindbending neo-noir finally gets the disc release it deserves thanks to the 4K restoration and encoding nous used on StudioCanal's Blu-ray do-over.

★★★★★



Drunken Master

Jackie Chan's legendary kung-fu comedy kicks and punches its way into the Masters of Cinema Blu-ray lineup with a striking new restoration and enough audio options to satisfy even the fussiest fight fans.

★★★★★



King Kong: Premium Collection

Fans will go ape for this HMV-exclusive platter of the classic monster movie, which lives up to its 'Premium Collection' billing thanks to an attractive encode and engrossing extras.

★★★★★



The Big Heat

From the sheer clarity of its restored 1080p black-and-white visuals to the extensive array of extra features (including a chat track), this is a fantastic Blu-ray edition for Fritz Lang's masterful 1953 film noir.

★★★★★



The Fisher King

Terry Gilliam's modern fairy tale (starring Jeff Bridges and Robin Williams) arrives on BD via Criterion Collection with a bulging selection of bonus bits and director-approved 2K transfer.

★★★★★

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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content

★★★★★



Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



EE TV Smart Box, £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

TOP 5 Headphones



Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



Sony MDR-1000X, £360

Superior noise-cancelling cans with hi-res audio support via Sony's LDAC wireless transmission tech. Slick, touch-sensitive operation and healthy battery life. Fulsome sound and comfy to wear

★★★★★



Lindy Cromo NCX-100, £100

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★



PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★



Bose QC35, £290

The latest in the QuietComfort range ditches the wired connection in favour of Bluetooth but retains Bose's luxurious styling and rich performance. Noise-cancelling mode is very efficient

★★★★★

TOP 5 Wireless speakers



KEF Muo, £300

Portable Bluetooth speaker that's a cut above much of the competition. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality

★★★★★



Sony SRS-X11, £60

An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. Get two and they can work in stereo

★★★★★



Q Acoustics BT3, £280

Bluetooth stereo pair with optical input makes a good alternative to a soundbar (there's even a subwoofer pre-out) while remaining a dab hand at music. Neat and tidy design, good price

★★★★★



Simple Audio Listen, £400

Desktop stereo speakers with Bluetooth support, these benefit from separate tweeter/midbass units and a classy construction. Performance is well-balanced, and a subwoofer output is offered for extra bass

★★★★★



Denon HEOS 5 HS2, £350

The mid-range multiroom speaker gets a second-gen revamp, adding welcome hi-res audio playback and Bluetooth connectivity. Gorgeous looks, boisterous, room-filling sound

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

CES Asia From 8K TVs to pico projectors, what we loved from the Far East tech show

Foreign fancies Blu-rays you have to import!

Sounds good We grab a chat with Skywalker

Sound audio expert Jeremy Bowker

→ REVIEWS

Philips 55POS9002 OLED TV Denon HEOS 'wireless' AVR Focal Sib Evo Atmos speaker pack Acer V7850 4K PJ DALI Phantom S in-wall PLUS News, software, opinion, comps and more!

ISSUE
#276 ON SALE
Aug 10

CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER



AV Avenger

An addiction to TV/movie streaming services and esoteric music releases is leading **Steve May** to financial ruin – but why stop when there's anime and '70s rock to be had?

I WOULDN'T CALL myself a classical music fan. I can sing-along to Whitesnake and Saxon, maybe even early Genesis, but I'm not a card-carrying member of the Chopin appreciation society. But John Williams, James Horner and Hans Zimmer? Now you've got my attention.

A debate about what actually constitutes classical music was had at the recent launch of Primephonic, yet another subscription service that wants to stream cash from your bank account. Designed for devotees of Debussy and Bizet, it offers over 100,000 tracks, sourced from the likes of Sony Classical, Harmonia Mundi, Chandos and 2L.

But amid all the concertos and symphonies you'll find soundtrack releases, including *Man of Steel*, *Angels and Demons*, *The Magnificent Seven*, *Star Wars...* and *Kung Fu Panda 3*. All available in lovely 16-bit FLAC.

'We want to be the place where you look for the work of Hans Zimmer,' I was told by Primephonic's business bod Veronica Neo. Movies are the main vehicle for new classical compositions, she said. This hadn't occurred to me before, but clearly she's right.

The only thing that stopped me signing up for a £14.99 monthly subscription there and then was the fact that Primephonic is only available from a browser – and I absolutely draw the line at adding a PC or laptop to my AV stack.

More content, more problems

To be honest, the last thing I need is another subscription. Spotify Premium, Netflix, Amazon Prime – all on top of a monthly premium pay-TV service – means I'm burning through cash faster than Boris Becker on Black Friday.

But I can't help myself. I just took out a monthly sub to Crunchyroll, the anime streaming service.

That's another fiver a month. To be fair, it strikes me as good value – while Crunchyroll can be watched free, it's peppered with annoying 'subscribe now' ads. I caved after about two days.

The sad fact is **I now spend way more on content than I ever used to**, even back when packaged media was in its heyday.

I continue to buy actual room-cluttering stuff today, but given the quality of streaming video – both HD and 4K – I find the main incentive to buy films on disc is usually the soundmix.

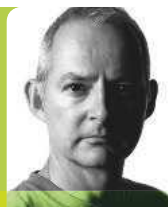
And I'm content to splurge more on music than movies. Blu-ray audio discs are catnip. The Velvet Underground and Nico debut (PCM, DTS-HD and Dolby TrueHD, all 24-bit/192kHz), and *White Light/White Heat* (the same in 24-bit/96kHz), are recent beloved acquisitions. Given these are almost certainly limited pressings, I reckon they could prove lucrative investments*. Second-hand prices for select DVD-Audio and SACD platters can run into hundreds apiece, which is in stark contrast to the value of my DVDs, which currently command about 25p. I'm also rather partial to premium packaging, one reason why I had my minions pick up the remastered CD of Blue Oyster Cult's *Secret Treaties*, issued by Culture Factory. Limited to 3,000 copies, it's pressed as a vinyl replica complete with cardboard sleeve, and is drop-dead gorgeous. I may have to buy more.

And don't even get me started on the Black Sabbath *The Ten Year War* vinyl box set, which amongst its indubitable treasures is a USB crucifix containing the first eight Sabbath albums in MQA format. Only Satan would tempt so mercilessly.

Maybe I should sign up to AV-Holics Anonymous? I hear it's only £9.99 a month... ■

*This column is not credible investment advice – but if you have a rare disc, let us know via letters@homecinemachoice.com

When it comes to Crunchyroll, **Steve May** recommends *Mob Psycho 100* and *Yuri on Ice* – we haven't got a clue what they are, though...





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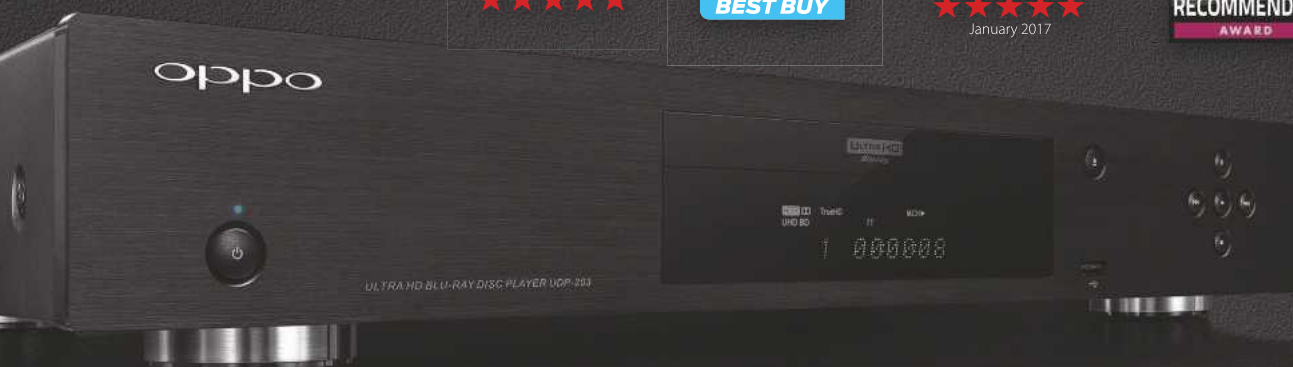
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Blu-ray disc & media players



UDP-203

- Reference quality video processing
- Universal disc playback including SACD
- All HD formats including 4K@60p 4:4:4
- High Dynamic Range (HDR)
- Dolby Atmos and DTS:X HDMI bitstream output
- Multi-channel DSD64/128 and 192kHz/24-bit PCM
- 7.1 analogue channels for Dolby TrueHD and DTS-HD Master Audio



NEW

UDP-205

- Adds best-in-class audio performance
- SABRE³² ES9038PRO reference DAC chips
- Toroidal power supply
- High-precision HDMI audio clock
- Stereo DSD256 & 768kHz/24-bit PCM
- Asynchronous USB DAC and HDMI inputs
- XLR balanced stereo outputs
- Solid aluminium front panel & reinforced chassis

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